

SUBJECT AREA: Climate Change, None

REFERENCE: The Environment Act

QUESTION:

The Environment Act, 12.0.2, Climate change considerations, states that “the director or minister must take into account ...the energy efficiency of the proposed development”.

Where would she find that information?

RESPONSE:

1 Information pertinent to this provision of *The Environment Act* can be found in the EIS in these
2 areas:

- 3
- Chapter 2 (Project Description).
- 4
- Chapter 23 (Sustainable Development) and in particular, Appendix 23B.
- 5
- Air Technical Data Report 5.0.
- 6
- Greenhouse Gas Lifecycle Technical Data Report 5.2, Appendix 3.

SUBJECT AREA: **Climate Change, General Assessment**

REFERENCE: *The Environment Act*

QUESTION:

The Environment Act, 12.0.2, Climate change considerations, states “the director or minister must take into account ...the amount of greenhouse gases to be generated by the proposed development”. Section 4.6 of The Greenhouse Gas Life Cycle Assessment states that “quantification of the generation GHG is...uncertain”. Many references in the “Assessment” confirm significant uncertainty of source, material, delivery, quantity, construction process, etc. Does Manitoba Hydro believe the director or minister has sufficient information to reach an informed conclusion, at this time?

RESPONSE:

- 1 The director and/or minister will make the ultimate determination whether it has received
- 2 sufficient information. Manitoba Hydro is of the view that it has provided all available and
- 3 relevant information for this determination to be made.

SUBJECT AREA: Greenhouse gas, None

REFERENCE: DPWO Round 1 IRs 1-10

QUESTION:

EIS Greenhouse Gas Life Cycle Assessment

What are the professional credentials of the authors? What similar work have they previously or recently completed? Are CV's available? There are references within the report to all data being provided by Hydro, is that data available? Will the authors be made available for discussion at the formal hearings?

RESPONSE:

- 1 CV's and credentials will be provided in accordance with the CEC's Hearing Directive and
- 2 Process Guidelines. A final decision with respect to Manitoba Hydro's witnesses has not yet
- 3 been made but the list will also be provided as required under the CEC's Hearing Directive and
- 4 Process Guidelines.

- 5 At this time Manitoba Hydro does not intend to bring The Pembina Institute to the Clean
- 6 Environment Commission hearing; however, internal staff who contributed to the analysis and
- 7 the final report will be in attendance.

- 8 Assumptions and data, along with their rationale and sources respectively, are listed in
- 9 Appendices 1 and 2 of the LCA report.

SUBJECT AREA: Greenhouse gas, None

REFERENCE: DPWO Round 1 IRs 1-10

QUESTION:

EIS GHG LCA MMTP Greenhouse Gas Life Cycle Assessment

The Greenhouse Gas Life Cycle Assessment indicates ISO standards are met yet it states that Manitoba Hydro provided the majority of the data and the authors relied upon that data to calculate results. Was the data tested, and if so by whom and are those tests available? If the data was NOT tested, does the author believe the results in fact meet ISO standards and that the results are appropriate for the director or minister to draw an informed conclusion, as required under The Act?

RESPONSE:

1 As noted in ISO 14044, “Data selected for an LCA depend on the goal and scope of the study.
2 Such data may be collected from the production sites associated with the unit processes within
3 the system boundary, or they may be obtained or calculated from other sources. In practice, all
4 data may include a mixture of measured, calculated or estimated data.” As the developer of the
5 MMTP, Manitoba Hydro was the only practical source of many key pieces of data and
6 information. For example, Manitoba Hydro was best placed to provide estimates of total
7 material quantities, such as tower and conductor steel, which are all listed in Appendix 2 of the
8 LCA report. Using the data and information, Pembina Institute performed their LCA by applying
9 the methodologies laid out in Section 4 of the report. As noted in the LCA report, ISO 14040 was
10 followed. The director and/or minister will make the ultimate determination whether it has
11 received sufficient information. Manitoba Hydro is of the view that it has provided all available
12 and relevant information for this determination to be made.

SUBJECT AREA: Greenhouse gas, None

REFERENCE: EIS & Greenhouse Gas Life Cycle Assessment

QUESTION:

The Environment Act, 12.0.2, Climate change considerations, states “the director or minister must take into account ...the amount of greenhouse gases to be generated by the proposed development”. The Greenhouse Gas Life Cycle Assessment seems to indicate all slash will be burnt in place yet no quantities appear to be provided. Does Manitoba Hydro intend to burn all slash? If the slash is burnt, does Manitoba Hydro consider this Assessment to be accurate enough to allow the director or minister to draw an informed conclusion, at this time?

RESPONSE:

- 1 The Clearing Management Plan will quantify how much biomass will be burned. That plan will
- 2 determine how to use, or dispose of, cleared biomass in a both a practical and environmental
- 3 manner. Land cover analysis indicated that up to 533 ha of forested land would need to be
- 4 cleared for the MMTP. The LCA made a conservative assumption that all cleared biomass would
- 5 be combusted. Should some biomass be combusted productively or used in permanent
- 6 products the net emissions would be less.

- 7 The director and/or minister will make the ultimate determination whether it has received
- 8 sufficient information. Manitoba Hydro is of the view that it has provided all available and
- 9 relevant information for this determination to be made.

SUBJECT AREA: Property, None

REFERENCE: *The Environment Act & Manitoba Hydro "Project Up-dates"*

QUESTION:

The Environment Act states:

Licence required for Class 3 development

12(1) No person shall construct, alter, operate or set into operation any Class 3 development unless(a) the person first files a proposal in writing with the department and obtains a valid and subsisting licence from the minister for the development; or (b) the person is exempted under the Act or the regulations from the requirements of clause (a). Hydro announces now, without any prior notice or conversation, "Beginning this month, surveyors will be accessing landowner property along the proposed transmission line.....This survey work will assist in the determination of tower placement, should the project be approved."

Did Hydro review this decision to start construction surveying with The Director, prior to the decision to proceed? Isn't surveying to determine tower placement part of the Work and therefor in contravention of the Act? Did Hydro obtain an opinion on this decision to proceed with this work? If not, why not, and if so, would they share it now?

RESPONSE:

- 1 Survey work is being done as part of the planning and design phase of the Project, and not as
- 2 part of construction of the Project. As such, it is permissible and not in contravention of *The*
- 3 *Environment Act*. The work is also being conducted by land surveyors, who are authorized to
- 4 carry out survey work under *The Land Surveyors Act*.

SUBJECT AREA: Project Description, None

REFERENCE: EIS

QUESTION:

The connecting Great Northern Transmission Line has been licensed with a 60 m. ROW width. The vast majority of Bipole III ROW is 66 m. wide. BC Power publishes information that indicates it builds most all 500 KVA lines with a 60 m. ROW. It appears that the 100 m width is 51.5% greater than Bipole III and 66.67% greater than industry standards. Why is Manitoba Hydro intent on building this Project with a 100 m. ROW? What would potential cost savings be to reduce the width to 60 m.? Is the 100 m. ROW in fact to mitigate EMF?

RESPONSE:

- 1 The transmission line Right-of-Way (ROW) provides the space necessary to construct, operate
- 2 and maintain an electric power line in a safe and reliable manner.
- 3 ROW width is dependent on several factors, including:
 - 4 • the type and height of structures and their below-grade foundations,
 - 5 • span lengths between structures,
 - 6 • conductor properties,
 - 7 • design weather conditions and the conductor behavior (sag and swing) when exposed to
 - 8 these weather conditions,.
 - 9 • electrical design considerations such as electric fields, magnetic fields, radio
 - 10 interferences and audible noise
 - 11 • regulatory requirements (e.g. CSA Standard C22.3 No.1-15 'Overhead Systems'),
 - 12 • internal design standards, and
 - 13 • required footprint for construction and maintenance activities, including emergency
 - 14 restoration.

15 For MMTP, these factors result in the proposed ROW widths of 80m for self-supporting towers,
16 and 100m for guyed towers.

17 As climate, location, design parameters, and other factors differ between utilities, the ROW
18 width will vary accordingly.

19 The design criteria used for MMTP considers more accurate ice and wind weather conditions,
20 which increases the swing and sag of the conductor. Optimization of tower design and spotting
21 along the ROW has increased span lengths, and thus tower heights, requiring a larger guy
22 footprint but reducing the overall number of towers required.

23 Additionally, the 80 meter right-of-way is required for self supporting tower sections to meet
24 the Province of Manitoba's 'Guidelines for Sound Pollution' (1992).

25 The Great Northern Transmission Line falls under a different jurisdiction (e.g. the USA), and is
26 therefore subject to different regulatory and design criteria, resulting in a different right-of-way
27 width.

28 Cost savings in reducing the ROW width would be negligible, as the savings from procuring a
29 narrower ROW would be offset by the need to use additional steel towers spaced closer
30 together to reduce sag and swing of conductor.

31 The audible noise for Bipole III (a high voltage direct current transmission line) is less than an
32 equivalent voltage AC transmission line such as MMTP. The required electrical clearances,
33 according to CSA Standard C22.3 No.1-15 'Overhead Systems', are smaller than MMTP resulting
34 in a narrower ROW.

SUBJECT AREA: First Nation and Metis Engagement, None

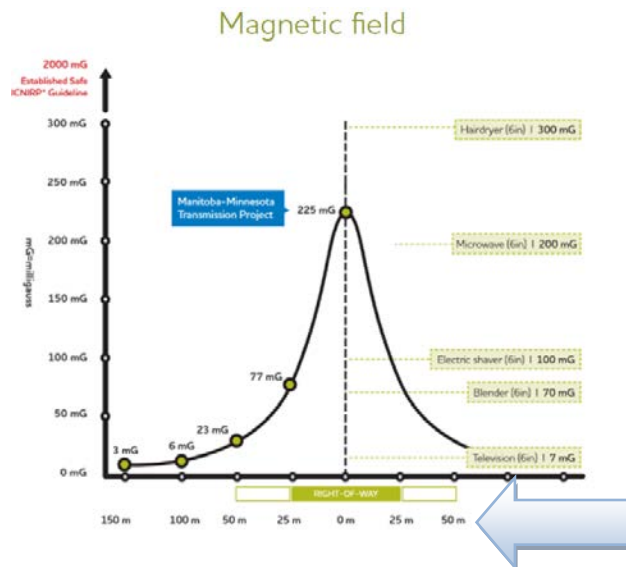
REFERENCE: Plain Language Summary

QUESTION:

Summary of The EIS “Plain language” document as provided to DPWO Band Members
 On page 4B-2 of the First Nation and Metis Engagement Process, Manitoba Hydro states
 “Manitoba Hydro remains committed to working with First Nations and addressing issues in a
 fair and transparent way”. In The Summary of Concerns and Comments from DPWO it states
 that as a result of previous incidents, “trust has been lost” with Hydro. On page 30 of the plain
 language document that was distributed to DPWO Band Members, the ROW is shown to be 50
 m. Nowhere else in that document is ROW width referenced. Can Band Members assume that
 the ROW width will, in fact, be 50 m.?

RESPONSE:

- 1 The figure found on page 30 of the plain language document includes a shaded and two clear
- 2 boxes below the graph that are intended to represent a ROW with 50m on either side of the
- 3 centreline, for a total ROW width of 100m, which is the ROW width requirement for guyed
- 4 towers for the Manitoba-Minnesota Transmission Project.



5

- 6 The ROW width is included on other documents shared with the community including the
- 7 Round 1, 2, and 3 newsletters, storyboards, presentations, posters, and “Quick Facts” sheet.

SUBJECT AREA: Mitigation, None

REFERENCE: EIS & Greenhouse Gas Life Cycle Assessment

QUESTION:

At various locations in the EIS, Manitoba Hydro indicates that significant, but un-quantified, amounts of bio-mass will be burned or left to rot, including both ROW harvesting and mats used during construction. Is Hydro aware that Providence College, located nearby, uses bio-mass as a significant component of its heating fuel source? Has Hydro considered using the significant amounts of bio-mass created by this work, in a positive manner?

RESPONSE:

- 1 Manitoba Hydro is aware of the biomass heating system at Providence College. Manitoba Hydro
- 2 is continuously seeking other uses of biomass created by its clearing and ROW widening
- 3 projects. Manitoba Hydro has successfully utilized a variety of methods to dispose of biomass
- 4 including:
 - 5 • Firewood for both commercial and personal use by adjacent communities.
 - 6 • Timber salvage for commercial forest products including saw logs, pulp wood, chips.
 - 7 • Supply of biomass fuel for heating to Pineland Tree Nursery.
- 8 For MMTP, Manitoba Hydro will investigate financially feasible alternatives when developing
- 9 plans for biomass management during clearing of the ROW.

SUBJECT AREA: Project Description, None

REFERENCE: EIS & www.greatnortherntransmissionline.com

QUESTION:

EIS & greatnortherntransmissionline.com

The great northern transmission line web info references a “required june 2020 in service date”. Please provide Hydro’s perspective on that date. If it is not met are there any effects on the agreements? Further, Presidential Permit # 398, issued November 16, 2016, seems to indicate either an expectation or even a contractual obligation for Hydro to purchase 750MW. of winter capacity while being obliged to deliver as much as 883 MW of summer capacity. Should both amounts be delivered, will Hydro in fact earn more than they spend?

RESPONSE:

- 1 The contractual arrangements between Manitoba Hydro and Minnesota Power are not within
- 2 scope of this Clean Environment Commission hearing.

SUBJECT AREA: First Nation and Metis Engagement, None

REFERENCE: Project Description 2.9.2.2

QUESTION:

This section states that "...tangent self-supporting lattice steel structures will be used to limit the potential effects on farming activities..." but that "[i]n non-agricultural areas, the transmission line will be constructed primarily of guyed lattice steel structures."

This Section does not appear to consider potential effects on Metis harvesting activities and rights. How does this take into account areas where a reduced ROW and tower footprint may be beneficial to Metis harvesting activities? How does this take into account areas where a reduced ROW and tower footprint may be beneficial to the exercise of Metis rights?

RESPONSE:

- 1 It is Manitoba Hydro's view that a reduction in ROW width and tower footprint will not have a
- 2 measureable benefit to Metis harvesting activities as harvesting activities can still take place.
- 3 Having said that Manitoba Hydro is continuing discussions with the MMF on this project.

- 4 The projects effects have not been discussed in the context of "rights" but rather in the context
- 5 of Manitoba Hydro's understanding of valued traditional activities, practices, areas and
- 6 resources that are of cultural importance to Metis.

SUBJECT AREA: First Nation and Metis Engagement, None

REFERENCE: First Nation and Metis Engagement, 4.1 - Introduction

QUESTION:

This section indicates that the First Nation, Metis and Aboriginal engagement began in August 2013. However, in the volume related to the Public Engagement Process, it was noted that the engagement began in June 2013. Please explain this discrepancy in the beginning dates for engagement.

RESPONSE:

- 1 Manitoba Hydro sent out a press release that was shared broadly to introduce the Project in
- 2 June 2013. This press release was shared with 78 media outlets and was widely available to
- 3 Manitobans including First Nations and Metis. While the FNMEP process did not formally begin
- 4 until August 2013, all of the information shared between June 2013 and August 2013 was
- 5 available to First Nations and the Metis.

SUBJECT AREA: First Nation and Metis Engagement, None

REFERENCE: Section 4.3.2

QUESTION:

First Nation and Metis Engagement, 4.3.2.1 Leadership Meetings; 4.3.2.2 Community Open Houses/Information Sessions; 4.3.2.3 Telephone Calls; 4.3.2.6 Routing Workshops; 4.3.2.8 Project Site Tour of Similar Project. To date, no leadership meetings and no community open houses/information sessions have been held with the MMF. How is this reflected in the EIS as the Section title implies MMF involvement in these activities?

RESPONSE:

- 1 The Section title in the EIS is intended to reflect the parties who were invited to participate in
- 2 the activities described, which included the MMF.

SUBJECT AREA: First Nation and Metis Engagement, None

REFERENCE: First Nation and Metis Engagement, 4.5.2 FNMEP Influence on Routing

QUESTION:

This section states that “[t]ransmission line routing is a preferred form of mitigation...”
However, it is unclear if this is the method preferred by Manitoba Hydro or by Métis groups. If this method was preferred by Metis groups, how was this conclusion reached? Particularly as MMF discussions with Manitoba Hydro had not progressed to mitigation at time of EIS execution.

RESPONSE:

- 1 This is a preferred method by Manitoba Hydro.

SUBJECT AREA: First Nation and Metis Engagement, None

REFERENCE: Environmental and Socio-Economic Setting

QUESTION:

The reliance of Manitoba Hydro on the use of the BiPole III TLUKS for information on the Metis is wholly inappropriate. The BiPole III Study was commissioned on a Project specific basis and was not meant to characterize Metis use in the MMTP vicinity. Additionally, the study areas are not overlapping which makes use of the data inappropriate.

Please provide detail on how this Section will be updated or an amendment filed now that Manitoba Hydro is in possession of MMF TLU information specifically collected for the MMTP.

RESPONSE:

1 In absence of MMF engagement during early project planning phases, Manitoba Hydro took
2 steps to better understand Metis use of the land including hunting, trapping, trails as well as
3 broader issues and concerns. These steps included consideration of issues shared in past project
4 hearings, reports available in the public domain, historic maps, compilations of regional history,
5 and through development of a gap analysis report prepared by North/South Consultants entitled
6 “Manitoba Métis: A review of available Information on the Use of Lands and Resources for
7 Traditional purposes in the MMTP Study area with Gap Analyses.”

8 While the Bipole III report was for a different project with a different study area, it was in
9 relation to a transmission project and the report was used to confirm the types of general
10 concerns and activities that the MMF had raised in the context of Bipole III to provide high level
11 guidance on what types of concerns and interests the MMF may have in relation to MMTP.

12 Manitoba Hydro will file the final report from the Study with regulators. Further, Manitoba
13 Hydro is committed to filing a supplemental report where Manitoba Hydro articulates how the
14 Study information has influenced the MMTP.

SUBJECT AREA: MMF, None

REFERENCE: Environmental and Socio-Economic Setting, 6.3.7.4

QUESTION:

Designated Lands and Protected Areas - This section specifies that protected areas respect First Nation's rights and agreements but makes no mention of Metis Agreements; specifically, the Metis Harvesting Agreement. How was the Metis Harvesting Agreement considered in the development of the EIS?

RESPONSE:

- 1 Section 6.3.1.3 indicates that "The Project is located within the Metis Natural Resource
- 2 Harvesting Zone, which is the recognized area for Metis natural resource harvesting by the
- 3 Province of Manitoba (MCWS, Metis Natural Resource Harvesting Map 2013)."

SUBJECT AREA: MMF, None

REFERENCE: Section 7.2.1

QUESTION:

Environmental and Socio-Economic Setting, 7.2.1 – Approach to Traditional Knowledge

This section outlines the process used with gathered ATK and indicated that it would be reviewed by Manitoba Hydro and that "[e]ach VC chapter will outline the relevant learnings from past projects and associated regulatory processes, as well as learnings on the assessment process itself, including adding more clarity in analysis processes, more inclusive cumulative effects assessment, better integration of ATK and more concise, plain-language approach to writing." However, this section does not include any detail on how the ATK collected would inform the VCs, how it would be/was integrated both prior to scoping and following.

Please provide specific detail on how ATK was integrated into each Valued Component, with specific examples.

RESPONSE:

- 1 This response assumes the question is referring to the Methods Chapter, rather than the
- 2 Environmental and Socio-Economic Setting Chapter.
- 3 The ATK reports provided by communities, prior to the filing of the EIS, were reviewed by
- 4 Manitoba Hydro to inform the environmental assessment. Examples of this are provided below.
- 5 In addition, following any discussions with communities where preferences were shared, or
- 6 site-specific local knowledge enhanced VC understanding or provided context for the EIS,
- 7 Manitoba Hydro shared this information with the assessment team.
- 8 Each chapter in the EIS notes the ATK study or other reference it draws upon.
- 9 For example, in the first VC chapter, Fish and Fish Habitat:

-
- 10 • On page 8-5 Peguis First Nation and Roseau River Anishinabe First Nation are
11 referenced when discussing watercourses used for fishing and travel. This information
12 confirms Manitoba Hydro’s understanding that fishing and travel occur in the Project
13 study area.
- 14 • On page 8-6 Peguis First Nation provides information on the timing of fishing activities
15 and common methods. The author outlines how Roseau River Anishinabe First Nation
16 indicates that they practice fishing mainly as a sport due to concerns regarding
17 contamination. This information, and much of the information that is referenced
18 further in this chapter indicate that First Nations value fish and fishing and provide an
19 indication of concerns in the watershed.
- 20 • Roseau River also noted a decrease in fish spawning was observed over the last decade.
21 This information is noted as a potential indication of stress on local populations.
- 22 • The ATK reports referenced in the VC chapter are listed on page 8-11.
- 23 • Key person interviews described on page 8-13 include a discussion on the memory
24 mapping sessions, community meetings and Elder gatherings that contributed to the
25 Swan Lake, Black River and Long Plain First Nations ATK report. This information also
26 connotes value to fish and fishing, and that there is a history and potential cultural
27 importance associated with fishing in the area.
- 28 • On page 8-14 when the author lists areas of uncertainty, ATK reports are listed in the
29 second bullet. The information is provided here to indicate that in the absence of a full
30 fish sampling program, Manitoba Hydro relied on ATK reports, as well as other sources
31 of information, to determine the presence of fish species in project waterways.
- 32 • Page 8-15 outlines habitat sensitivity rankings, and how streams with a Commercial,
33 Recreational or Aboriginal (CRA) fisheries were a mechanism for determining this rank.
34 Manitoba Hydro drew upon information provided in ATK reports, as well as other
35 information, to determined CRA fisheries.
- 36 • In Table 8-2 Potential Environmental Effects are listed, along with effect pathways,
37 measurable parameters and notes. The effect pathway for ‘Change in fish mortality’
38 includes a consideration for the use of herbicides. This is included due to concerns

- 39 heard through FNMEP regarding herbicides and various ATK studies. The Sagkeeng First
40 Nation Report shared concerns from members about chemicals causing pollution,
41 leaching into the water system, being absorbed by plants and then consumed by birds
42 and other wildlife.
- 43 • Change in fish health which could reduce fish productivity (e.g. produce fewer eggs) is
44 also included in response to spawning concerns heard from Roseau River Anishinabe
45 First Nation.
 - 46 • On page 8-20 Table 8-3 Characterization of Residual Environmental Effects on Fish and
47 Fish Habitat, the quantitative measure for moderate and high magnitude effect includes
48 a consideration of the CRA fishery.
 - 49 • On page 8-27 the author notes the 13 species targeted by the Aboriginal Fishery of Lake
50 Winnipeg (Peguis First Nation and Lloyd Stevenson 2015) for sustenance and
51 commercial use. This information contributes to characterizing the waterways in the
52 study area. The author goes on to indicate that the Peguis First Nation ATK report
53 identified 16 species fished for in the RAA. This also contributes to characterizing
54 waterways in the RAA.
 - 55 • On page 8-28 Table 8-4 Commercial, Recreational and Aboriginal Fishery Species Known
56 or Expected to Occur within the RAA are provided. Much of this table was populated
57 with information provided by the Peguis First Nation ATK report, as well as other Peguis
58 First Nation information.
 - 59 • On page 8-53 when characterizing residual effects the author discusses how CRA
60 fisheries could potentially have life processes affected by increases in sedimentation.
61 Mitigation measures are then described to reduce the potential increase of sediment to
62 waterways.
 - 63 • Residual effects discussion characterize effects to CRA fisheries on page 8-67 and their
64 significance is discussed on page 8-70
- 65 Understandings learned from ATK and information conveyed through the FNMEP are clearly
66 referenced in each remaining chapter of the EIS, similar to that described above.

SUBJECT AREA: First Nation and Metis Engagement, None

REFERENCE: Environmental and Socio-Economic Setting, 7.3.2.1

QUESTION:

The VCs selected for assessment do not include Aboriginal rights, nor is there a representative VC for which Aboriginal rights are designated as a pathway component. Were Aboriginal rights considered? Why or Why not? If Aboriginal rights were considered as a VC or pathway component, please provide rationale for lack of reference to this important aspect.

RESPONSE:

- 1 The assessment considered the effects of the proposed project on people as required under
- 2 Manitoba's legislation and as outlined in the National Energy Board's Electricity Filing Manual.
- 3 That included the effects of the proposed project on Indigenous People, including the Metis.

- 4 As part of that assessment the effects of the proposed project on activities of the Metis which
- 5 might constitute elements of practices, customs and traditions integral to the distinctive culture
- 6 of the Metis, were included and considered. Those are the kinds of activities that the Courts
- 7 have expressly recognized would potentially be constitutionally protected under the section 35.

- 8 The assessment did not try to distinguish further whether those activities, practices, customs or
- 9 traditions met the additional tests to be constitutionally protected, for example, whether or not
- 10 they were of central significance to the Metis prior to effective control. The Proponent did not
- 11 try to further distinguish the nature of these activities, practices, customs or traditions for the
- 12 purposes of its assessment. It does not consider that it has the competency or authority to
- 13 make such determinations.

- 14 Whether or not such activities were asserted by the MMF to be protected as Aboriginal Rights,
- 15 they were considered to be important to the Metis and the Proponent has worked and

- 16 continues to work with the MMF to mitigate any of the effects that would be considered
- 17 negative by the Metis.

SUBJECT AREA: MMF, None

REFERENCE: MMF Round 1 IRs 1-30

QUESTION:

Assessment of Potential Environmental Effects on Wildlife and Wildlife Habitat, 9.1

This section indicates that "...natural wildlife habitat (i.e., grassland, wetland and forests) remains primarily in Crown land areas..." however, there is no discussion of that habitat's importance to Aboriginal groups. As Metis harvesting and other traditional activities and Metis rights must be exercised primarily on Crown land or private land where permission is granted, this is an important aspect to note. How was Crown land usage by the Metis considered in the EIS? How was Crown land usage by the Metis for the purpose of exercising Metis rights considered in the EIS?

RESPONSE:

- 1 Manitoba Hydro has heard through meetings over the last year with the MMF that crown land
- 2 is considered valuable for exercising rights-based activities. The value of Crown lands was also
- 3 conveyed by other communities engaged in the First Nations and Metis Engagement Process,
- 4 and this value was conveyed during routing workshops and during analysis of traditional land
- 5 use activities as described in Chapter 11. In addition, please refer to MMF-IR-008.

SUBJECT AREA: MMF, None

REFERENCE: Section 10.4.7

QUESTION:

This section specifies that "...the effects of construction should not reduce the number of traditional use plant species in the RAA or effect the viability of traditional use species in the RAA." However, this does not take into account Metis preferred areas of harvest and potential effects to those areas. How were the preferred areas of harvest of the Metis considered in the assessment of effects on Traditional Use Plant species?

RESPONSE:

- 1 Effects to traditional plant species were assessed by considering the characteristics of the
- 2 landscape affected by the Project. Native vegetation comprises 24% of the Final Preferred
- 3 Route Project Development Area. Transmission line routing for the Project considered and
- 4 ultimately avoided the many known areas with traditional use plant species, including 1073
- 5 observations recorded during the 2014 field surveys along the alternative routes in the RAA.
- 6 Additionally, all affected cover classes are well represented in the RAA (1,136,357 ha of
- 7 deciduous forest, 32,145 ha of shrubland and 33,872 ha of pasture). Based on this
- 8 understanding, the effects of construction should not reduce the number of traditional use
- 9 plant species in the RAA or effect the viability of traditional use species in the RAA.
- 10 Should the MMF identify additional preferred areas of harvest in their final report, Manitoba
- 11 Hydro has committed to filing a supplemental report where Manitoba Hydro articulates how
- 12 the Study information has influenced the MMTP.

SUBJECT AREA: MMF, None

REFERENCE: MMF Round 1 IRs 1-30

QUESTION:

Assessment of Potential Environmental Effects on Traditional Land and Resource Use

There is no valued component which fully takes into account Metis rights. The use of Traditional Land and Resource Use as a proxy for Aboriginal rights is inappropriate and cannot account for the many variables and facets of the exercise of Aboriginal rights as the use of traditional species, by definition, generally only looks at the biophysical aspects of the right. Were other aspects of traditional land use activities considered, namely, preferred methods of traditional land use, economic consequences of altered traditional land use activities, cultural importance of traditional land use activities, or avoidance behaviours that may be caused by the Project's presence in traditional land use areas?

RESPONSE:

- 1 The assessment considered the effects of the proposed project on people as required under
- 2 Manitoba's legislation and as outlined in the National Energy Board's Electricity Filing Manual.
- 3 That included the effects of the proposed project on Indigenous People, including the Metis.

- 4 As part of that assessment the effects of the proposed project on activities of the Metis which
- 5 might constitute elements of practices, customs and traditions integral to the distinctive culture
- 6 of the Metis, were included and considered (Chapter 11).

SUBJECT AREA: MMF, None

REFERENCE: Chapter 11, Section 11.1

QUESTION:

This section states that the MMF study will be used to help inform the EPP for the Project, however, earlier sections in the EIS (4.5.19.1 Engagement Process) state that it will be used to inform the EIS. Please clarify.

RESPONSE:

- 1 After receipt of the final report from the MMF, Manitoba Hydro has committed to file the final
- 2 report from the Study with regulators. Further, Manitoba Hydro is committed to filing a
- 3 supplemental report where Manitoba Hydro articulates how the Study information has
- 4 influenced the MMTP.

SUBJECT AREA: Clean Air Commission, None

REFERENCE: Assessment of Potential Environmental Effects on Traditional Land and Resource Use, 11.2.3 Learnings from Past Assessments

QUESTION:

This section does not include advice from previous Clean Air Commission Reports. Please explain this lack of reference to the previously completed reports. The Bipole III Project included some indirect guidance in the matter of ATK that must be incorporated into this EIS. For example, the BiPole Report indicated that "It would be more prudent to have ATK and community consultation input before the data collection begins so that studies can be designed to address scientific as well as local user concerns."

This approach was not taken in the current EIS. Please provide a rationale for the lack of integration of advice from previous Clean Air Commission Reports in the execution of the EIS.

RESPONSE:

- 1 Each VC and engagement chapter begins with a 'lessons learned' section where learnings from
- 2 past assessments and hearing commission reports are discussed, including the Clean
- 3 Environment Commission report for Bipole III. Prior to developing the engagement process for
- 4 this Project, feedback and related concerns raised in these past reports were considered.

- 5 Based on these recommendations, Manitoba Hydro started the engagement process earlier,
- 6 which included a discussion with communities about how they wished to be engaged. During
- 7 these interactions, some communities chose to begin discussions regarding conducting ATK
- 8 studies.

- 9 This process resulted in successful sharing of knowledge, including identification of issues and
- 10 concerns about the Project and the submission of traditional knowledge reports from
- 11 communities within the timelines provided.

SUBJECT AREA: MMF, None

REFERENCE: Assessment of Potential Environmental Effects on Traditional Land and Resource Use, 11.4.3 Hunting and Trapping

QUESTION:

This section states that "...Metis identified hunting and trapping among the current use of land and resources for both economic and cultural purposes." Please identify where the Metis information referenced was derived from and provide a rationale for its use as a proxy for information collected specifically for the MMTP.

RESPONSE:

- 1 In the absence of MMF engagement during early project planning phases, Manitoba Hydro took
- 2 steps to better understand Metis use of the land including hunting, trapping, trails as well as
- 3 broader issues and concerns. Manitoba Hydro commissioned North/South Consultants to
- 4 conduct a literature review that included a desktop review of available information on use of
- 5 lands and resources by Metis.

- 6 This review found that Metis trap beaver, coyote, fisher, fox, lynx, marten, mink, muskrat, otter,
- 7 rabbit, raccoon, squirrel, weasel, wolf and wolverine and noted most species are trapped for
- 8 commercial purposes, while beaver, muskrat and lynx are also harvested for consumption.

SUBJECT AREA: MMF, TLRU

REFERENCE: Section 11.4.4

QUESTION:

This section states that "...Metis continue to use long-established trails and travelways that connect communities, harvesting areas and gathering places in a network of traditional use and cultural patterns." Please identify where the Metis information referenced was derived from and provide a rationale for its use as a proxy for information collected specifically for the MMTP.

RESPONSE:

- 1 The information noted above was provided by a traditional land use expert retained by
- 2 Manitoba Hydro to assist in the development of Chapter 11.

- 3 In the absence of MMF engagement during early project planning phases, Manitoba Hydro used
- 4 a traditional land use expert and secondary sources to better understand Metis use of the land
- 5 including hunting, trapping, trails as well as broader issues and concerns. These were not
- 6 intended to be a proxy for MMF engagement.

SUBJECT AREA: MMF, TLRU

REFERENCE: TLRU, Section 11.5

QUESTION:

This section states that "[p]otential project effects on TLRU shared by participants during preliminary routing discussions included Aboriginal and Treaty rights, historical use (heritage resources), harvesting (berry picking and gathering), sacred and traditional practices (sacred areas), gathering places and burial sites (sacred and sensitive areas), TLE (pressure on TLE interest) and Medicine Line burials (disturbance of burials)." It is not clear from the EIS how Metis rights were identified to be a potential project effect in terms of their relation to TLRU. Further, it is not clear from the EIS how this potential project effect was assessed as it was not identified as a Potential Environmental Effect for TLRU or as a measurable parameter/unit of measurement. Please clarify how Metis rights were considered as a potential project effect on TLRU. Further, no information is provided on how the potential project effects raised during preliminary routing discussions evolved to become the Potential Environmental Effects assessed under this VC. More information is required.

RESPONSE:

- 1 The projects effects have not been discussed in the context of "rights" but rather in the context
- 2 of Manitoba Hydro's understanding of valued traditional activities, practices, areas and
- 3 resources that are of cultural importance to Metis, as laid out in the EIS. For further
- 4 information, please refer to response MMF-IR-008.

- 5 The EIS in Chapter 11 states that Manitoba Hydro "*selected traditional activities and resource*
- 6 *use as a VC because the Project potentially affects valued traditional activities, practices, areas*
- 7 *and resources that are of cultural importance to First Nations and Metis*".

8 The principles guiding Manitoba Hydro's approach to this engagement are set forth in Section
9 11.1.1.1. In Chapter 4 the First Nation and Metis Engagement Process (FNMEP) is set out in
10 detail.

11 In Section 11.1.3, there is a listing of communities and Project specific studies undertaken,
12 completed and continuing with respect to TLU.

13 The methods employed to gather data with respect to TLU are discussed in section 11.3.1 and
14 11.3.1.2 and include self-directed studies, and the FNMEP. Secondary sources used were also
15 identified in section 11.3.1.3.

16 Chapter 11 also identifies other VCs from other chapters such as chapters 9, 10, 12 and 16
17 relevant to the issue as well as the assessment methods in Section 11.3.2.

18 Chapter 11.3.2.2 details Potential Environmental Effects, Effect Pathways and Measurable
19 Parameters.

SUBJECT AREA: MMF, TLRU

REFERENCE: Section 11.7

QUESTION:

This section indicates that "[t]here are generally accepted thresholds for TLRU..." which, in the context of the sentence, does not make sense: "[t]here are generally accepted thresholds for TLRU, which makes determining the significance of effects on TLRU challenging."

Does the EIS mean to state that there are not generally accepted thresholds?

RESPONSE:

- 1 Please refer to response CEC-IR-022.

SUBJECT AREA: MMF, Heritage

REFERENCE: Heritage Resources 12.1.2.3

QUESTION:

This section indicated that the Swan Lake First Nation identified the Assiniboine River and Red River crossing as areas of potential Metis farmsteads, however, this was not followed up on with the MMF. Please provide specific detail on why this assertion by SLFN was not further explored with the MMF.

RESPONSE:

1 The information provided by Swan Lake First Nation was general in nature and not related to a
2 specific heritage resource site. The Assiniboine River and Red River crossing as areas of
3 potential Metis farmsteads is also not new information. The information is referenced in
4 publically available sources which were included in the literature review, "*Manitoba Métis: A*
5 *Review of Available Information on the Use of Lands and Resources for Traditional Purposes in*
6 *the MMTP Study Area with Gap Analyses*". Specifically: "*following the decline of the buffalo*
7 *hunt in the post-1864 period, Métis sought other vocations which included buffalo bone*
8 *collection for fertilizer on the southern and western prairies (Pelletier 1974) and agriculture*
9 *(though marginal at times) taken up by those who remained on the surveyed lots of the Red and*
10 *Assiniboine rivers (Flanagan 1991).*" Given that this information was not new detailed
11 information about a specific site, and has been referenced elsewhere in publically available
12 documents, this was considered to be information that the MMF would likely already be aware
13 of.

SUBJECT AREA: **Methods, None**

REFERENCE: **Section 16.2.3**

QUESTION:

Assessment of Potential Environmental Effects on Land and Resource Use, 16.2.3

Administrative Boundaries

This section includes a listing of administrative boundaries; however, this particular boundary is not applied consistently throughout the EIS. Please provide detail on why administrative boundaries were not listed for other valued components.

RESPONSE:

- 1 Administrative boundaries were discussed in chapters where the author felt the topic was
- 2 relevant and contributed to the discussion within the assessment. For example, the chapter on
- 3 Land and Resource Use included data from a number of rural, urban and land use management
- 4 districts; therefore, these were identified. In other valued component chapters, administrative
- 5 boundaries are covered in Regulatory and Policy Setting.

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: EIS, Chapter 9, section 9.5

QUESTION:

Caribou were not a species that were considered in Chapter 9. Please explain how you considered the sustainable harvest or yield of caribou in in the Game Hunting Areas through which the Project passes (Manitoba Game Hunting Areas 34A, 35 and 35A), and explain how the Project may impact the sustainable yield of caribou in these same GHAs?

RESPONSE:

- 1 Caribou are not known to occur in the Regional Assessment Area (Manitoba Conservation and
- 2 Water Stewardship 2015).

3 **References**

- 4 Manitoba Boreal Woodland Caribou Management Committee. 2015. Conserving a Boreal Icon, Manitoba's
- 5 Boreal Woodland Caribou Recovery Strategy. Manitoba Conservation and Water Stewardship. Winnipeg,
- 6 Manitoba. 30 pp.

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: EIS, Chapter 9, section 9.5

QUESTION:

Please explain how you considered the sustainable harvest or yield of black bear in the Game Hunting Areas through which the Project passes (Manitoba Game Hunting Areas 34A, 35 and 35A), and how the Project may impact the sustainable yield of black bears in these same GHAs?

RESPONSE:

1 No information has been published on the rate of harvest or sustainable yield of black bears in
2 Manitoba Game Hunting Areas 34A, 35, and 35A. However, Manitoba Hydro utilized the best
3 available information to help understand the ecology of black bears within the Project study
4 area. To inform the assessment, Manitoba Hydro conducted field studies, a literature review, a
5 First Nation and Metis Engagement Process, and a Public Engagement Process. Of particular
6 value were key-person interviews with Regional Wildlife Managers and Biologists with
7 Manitoba Sustainable Development. This Provincial department is responsible for the
8 administration and management of wildlife resources, including black bears, under *The Wildlife*
9 *Act*. The residual effect of the Project on hunting was concluded to be of low magnitude
10 (Section 16.5.4, Assessment of Change in Hunting and Trapping). Additional discussion of
11 potential effects on black bears is provided in Section 9.5.3 (Assessment of Change in Mortality
12 Risk).

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: EIS, Chapter 9, section 9.5

QUESTION:

Please explain how you considered the sustainable harvest or yield of moose in in the Game Hunting Areas through which the Project passes (Manitoba Game Hunting Areas 34A, 35 and 35A), and explain what impact the Project may have on the sustainable yield of moose in these same GHAs? EIS, Chapter 9, section 9.5

RESPONSE:

- 1 No information has been published on the rate of harvest or sustainable yield of moose in
- 2 Manitoba Game Hunting Areas 34A, 35, and 35A. However, Manitoba Hydro utilized the best
- 3 available information to help understand the ecology of moose within the Project study area.
- 4 To inform the assessment, Manitoba Hydro conducted field studies, a literature review, a First
- 5 Nation and Metis Engagement Process, and a Public Engagement Process. Of particular value
- 6 were key-person interviews with Regional Wildlife Managers and Biologists with Manitoba
- 7 Sustainable Development. This Provincial department is responsible for the administration and
- 8 management of wildlife resources, including moose, under *The Wildlife Act*. The residual effect
- 9 of the Project on hunting was concluded to be of low magnitude (Section 16.5.4, Assessment of
- 10 Change in Hunting and Trapping). Additional discussion on the status of moose is provided in
- 11 Section 11.4.3 (Hunting and Trapping), and on potential effects on moose is provided in Section
- 12 9.5.3 (Assessment of Change in Mortality Risk).
- 13 Manitoba Hydro provided further information in CEC-IR-055.

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: EIS, Chapter 9, section 9.5

QUESTION:

Please explain how you considered the sustainable harvest or yield of elk in in the Game Hunting Areas through which the Project passes (Manitoba Game Hunting Areas 34A, 35 and 35A) and explain what impact the Project may have on the sustainable yield of elk in these same GHAs?

RESPONSE:

- 1 No information has been published on the rate of harvest or sustainable yield of elk in
- 2 Manitoba Game Hunting Areas 34A, 35, and 35A. However, Manitoba Hydro utilized the best
- 3 available information to help understand the ecology of elk within the Project study area. To
- 4 inform the assessment, Manitoba Hydro conducted field studies, a literature review, a First
- 5 Nation and Metis Engagement Process, and a Public Engagement Process. Of particular value
- 6 were key-person interviews with Regional Wildlife Managers and Biologists with Manitoba
- 7 Sustainable Development. This Provincial department is responsible for the administration and
- 8 management of wildlife resources, including elk, under *The Wildlife Act*. The residual effect of
- 9 the Project on hunting was concluded to be of low magnitude (Section 16.5.4, Assessment of
- 10 Change in Hunting and Trapping). Additional discussion on the status of elk is provided in
- 11 Section 11.5.3 (Assessment of Change in Land and Resources used for Hunting and Trapping),
- 12 and on potential effects on elk is provided in Section 9.5.3 (Assessment of Change in Mortality
- 13 Risk).
- 14 Manitoba Hydro provided further information in response MCWS_MH-I-081.

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: EIS, Chapter 9, section 9.5

QUESTION:

Please explain how you considered the sustainable harvest or yield of deer in the Game Hunting Areas through which the Project passes (Manitoba Game Hunting Areas 34A, 35 and 35A) and explain what impact the Project may have on the sustainable yield of deer in these same GHAs?

RESPONSE:

1 No information has been published on the rate of harvest or sustainable yield of white-tailed
2 deer in Manitoba Game Hunting Areas 34A, 35, and 35A. However, Manitoba Hydro utilized the
3 best available information to help understand the ecology of white-tailed deer within the
4 Project study area. To inform the assessment, Manitoba Hydro conducted field studies, a
5 literature review, a First Nation and Metis Engagement Process, and a Public Engagement
6 Process. Of particular value were key-person interviews with Regional Wildlife Managers and
7 Biologists with Manitoba Sustainable Development. This Provincial department is responsible
8 for the administration and management of wildlife resources, including white-tailed deer,
9 under *The Wildlife Act*. The residual effect of the Project on hunting was concluded to be of low
10 magnitude (Section 16.5.4, Assessment of Change in Hunting and Trapping). Additional
11 discussion on the status of white-tailed deer is provided in Section 11.5.3 (Assessment of
12 Change in Land and Resources used for Hunting and Trapping), and on potential effects on
13 white-tailed deer is provided in Section 9.5.3 (Assessment of Change in Mortality Risk).

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: MMF Round 1 IRs 1-30

QUESTION:

Please explain how you considered the sustainable harvest or yield of dark geese/Canada geese in the Game Hunting Areas through which the Project passes (Manitoba Game Hunting Areas 34A, 35 and 35A), and explain what impact the Project may have on the sustainable yield of dark geese/Canada geese in these same GHAs?

RESPONSE:

1 No information has been published on the rate of harvest or sustainable yield of dark geese/
2 Canada geese in Manitoba Game Hunting Areas 34A, 35, and 35A. However, Manitoba Hydro
3 utilized the best available information to help understand the ecology of birds within the
4 Project study area. To inform the assessment, Manitoba Hydro conducted field studies, a
5 literature review, a First Nation and Metis Engagement Process, and a Public Engagement
6 Process. Of particular value were key-person interviews with Regional Wildlife Managers and
7 Biologists with Manitoba Sustainable Development. This Provincial department is responsible
8 for the administration and management of wildlife resources, including dark geese/Canada
9 geese, under *The Wildlife Act*. The residual effect of the Project on hunting was concluded to be
10 of low magnitude (Section 16.5.4, Assessment of Change in Hunting and Trapping). Additional
11 discussion on potential effects on geese is provided in Section 9.5.3 (Assessment of Change in
12 Mortality Risk).

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: EIS, Chapter 9, section 9.5

QUESTION:

Please explain how you considered the sustainable harvest or yield of white geese/snow geese in the Game Hunting Areas through which the Project passes (Manitoba Game Hunting Areas 34A, 35 and 35A), and explain what impact the Project may have on the sustainable yield of white geese/snow geese in these same GHAs?

RESPONSE:

1 No information has been published on the rate of harvest or sustainable yield of white
2 geese/snow geese in Manitoba Game Hunting Areas 34A, 35, and 35A. However, Manitoba
3 Hydro utilized the best available information to help understand the ecology of birds within the
4 Project study area. To inform the assessment, Manitoba Hydro conducted field studies, a
5 literature review, a First Nation and Metis Engagement Process, and a Public Engagement
6 Process. Of particular value were key-person interviews with Regional Wildlife Managers and
7 Biologists with Manitoba Sustainable Development. This Provincial department is responsible
8 for the administration and management of wildlife resources, including snow geese/white
9 geese, under *The Wildlife Act*. The residual effect of the Project on hunting was concluded to be
10 of low magnitude (Section 16.5.4, Assessment of Change in Hunting and Trapping). Additional
11 discussion on potential effects on geese is provided in Section 9.5.3 (Assessment of Change in
12 Mortality Risk).

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: EIS, Chapter 9, section 9.5

QUESTION:

Please explain how you considered the sustainable harvest or yield of ducks in the Game Hunting Areas through which the Project passes (Manitoba Game Hunting Areas 34A, 35 and 35A), and explain what impact the Project may have on the sustainable yield of ducks in these same GHAs?

RESPONSE:

1 No information has been published on the rate of harvest or sustainable yield of ducks in
2 Manitoba Game Hunting Areas 34A, 35, and 35A. However, Manitoba Hydro utilized the best
3 available information to help understand the ecology of birds within the Project study area. To
4 inform the assessment, Manitoba Hydro conducted field studies, a literature review, a First
5 Nation and Metis Engagement Process, and a Public Engagement Process. Of particular value
6 were key-person interviews with Regional Wildlife Managers and Biologists with Manitoba
7 Sustainable Development. This Provincial department is responsible for the administration and
8 management of wildlife resources, including ducks, under *The Wildlife Act*. The residual effect
9 of the Project on hunting was concluded to be of low magnitude (Section 16.5.4, Assessment of
10 Change in Hunting and Trapping). Additional discussion on potential effects on ducks is
11 provided in Section 9.5.3 (Assessment of Change in Mortality Risk).

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: EIS, Chapter 9, section 9.5

QUESTION:

Please explain how you considered the sustainable harvest or yield of ruffed grouse in the Game Hunting Areas through which the Project passes (Manitoba Game Hunting Areas 34A, 35 and 35A), and explain what impact the Project may have on the sustainable yield of ruffed grouse in these same GHAs?

RESPONSE:

1 No information has been published on the rate of harvest or sustainable yield of ruffed grouse
2 in Manitoba Game Hunting Areas 34A, 35, and 35A. However, Manitoba Hydro utilized the best
3 available information to help understand the ecology of birds within the Project study area. To
4 inform the assessment, Manitoba Hydro conducted field studies, a literature review, a First
5 Nation and Metis Engagement Process, and a Public Engagement Process. Of particular value
6 were key-person interviews with Regional Wildlife Managers and Biologists with Manitoba
7 Sustainable Development. This Provincial department is responsible for the administration and
8 management of wildlife resources, including ruffed grouse, under *The Wildlife Act*. The residual
9 effect of the Project on hunting was concluded to be of low magnitude (Section 16.5.4,
10 Assessment of Change in Hunting and Trapping). Additional discussion on potential effects on
11 ruffed grouse is provided in Section 9.5.2 (Assessment of Change in Habitat Availability).

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: EIS, Chapter 9, section 9.5

QUESTION:

Please explain how you considered the sustainable harvest or yield of spruce grouse in the Game Hunting Areas through which the Project passes (Manitoba Game Hunting Areas 34A, 35 and 35A), and explain what impact the Project may have on the sustainable yield of spruce grouse in these same GHAs?

RESPONSE:

1 No information has been published on the rate of harvest or sustainable yield of spruce grouse
2 in Manitoba Game Hunting Areas 34A, 35, and 35A. However, Manitoba Hydro utilized the best
3 available information to help understand the ecology of birds within the Project study area. To
4 inform the assessment, Manitoba Hydro conducted field studies, a literature review, a First
5 Nation and Metis Engagement Process, and a Public Engagement Process. Of particular value
6 were key-person interviews with Regional Wildlife Managers and Biologists with Manitoba
7 Sustainable Development. This Provincial department is responsible for the administration and
8 management of wildlife resources, including spruce grouse, under *The Wildlife Act*. The
9 residual effect of the Project on hunting was concluded to be of low magnitude (Section 16.5.4,
10 Assessment of Change in Hunting and Trapping). Additional discussion on potential effects on
11 spruce grouse is provided in Section 9.5.2 (Assessment of Change in Habitat Availability).

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: EIS, Chapter 9, section 9.5

QUESTION:

Please explain how you considered the sustainable harvest or yield of sharp-tailed grouse in the Game Hunting Areas through which the Project passes (Manitoba Game Hunting Areas 34A, 35 and 35A), and explain what impact the Project may have on the sustainable yield of sharp-tailed grouse in these same GHAs?

RESPONSE:

1 No information has been published on the rate of harvest or sustainable yield of sharp-tailed
2 grouse in Manitoba Game Hunting Areas 34A, 35, and 35A. However, Manitoba Hydro utilized
3 the best available information to help understand the ecology of birds within the Project study
4 area. To inform the assessment, Manitoba Hydro conducted field studies, a literature review, a
5 First Nation and Metis Engagement Process, and a Public Engagement Process. Of particular
6 value were key-person interviews with Regional Wildlife Managers and Biologists with
7 Manitoba Sustainable Development. This Provincial department is responsible for the
8 administration and management of wildlife resources, including sharp-tailed grouse, under *The*
9 *Wildlife Act*. The residual effect of the Project on hunting was concluded to be of low
10 magnitude (Section 16.5.4, Assessment of Change in Hunting and Trapping). Additional
11 discussion on potential effects on sharp-tailed grouse is provided in Section 9.5.3 (Assessment
12 of Change in Mortality Risk).

SUBJECT AREA: Fish and Fish Habitat, None

REFERENCE: Chapter 8, 8.2.1 Spatial Boundaries

QUESTION:

In Section 8.2.1 the section on local assessment area states that Manitoba does not currently provide guidance on the spatial study area boundaries related to Transmission line construction. Therefore, the local assessment area boundaries for the Project were derived from the Alberta Code of Practice for Pipelines and Telecommunication Lines Crossing a Water Body. Please provide the rationale for selecting the Alberta Code of Practice and Telecommunication Lines Crossing a Water Body compared to other provincial documents within Canada for 'lines crossing a water body? Which spatial study area boundary standards for transmission line construction did Manitoba use for recent transmission projects (Bipole III, St. Vital Complex, etc)?

RESPONSE:

- 1 As described in Section 8.2.1 of the MMTP Environmental Impact Statement (Chapter 8, pp. 8-6
- 2 and 8-7), the local assessment area includes a 30m buffer around station components. This
- 3 distance is listed in Table A-1 of the NEB Filing Manual (NEB 2014) and is standard in several
- 4 regulations across Canada (e.g., British Columbia Riparian Areas Regulation [BCMWLAP 2004],
- 5 New Brunswick Watercourse and Wetland Alteration Regulation [NBDELG 2012]), and is
- 6 recommended in several best management practices (e.g., Ontario Natural Heritage Reference
- 7 Manual [MNR 2010] and Alberta's Stepping Back from the Water [ESRD 2012]) as an acceptable
- 8 distance to protect the riparian area and to buffer the overland effects that construction may
- 9 have on the water body.

- 10 The Alberta Code of Practice for Pipelines and Telecommunication Lines Crossing a Water Body
- 11 (AENV 2001; Alberta ESRD 2013) were used to determine the spatial boundaries as they
- 12 establish a zone of impacts where direct disturbance (i.e., the Project development area) plus

13 90% of the sediment potentially generated during construction would be expected to be
14 deposited. The use of these spatial boundaries is consistent with information requirements for
15 a full review pursuant to The *Fisheries Act*. Since the spatial boundaries presented in AENV
16 (2001) and Alberta ESRD (2013) are consistent with standards across the country, and the
17 spatial boundaries are consistent with information requirements to complete a full assessment
18 under the *Fisheries Act*, these spatial boundaries are considered appropriate, in the absence of
19 specific provincial regulatory guidance.

20 The aquatic spatial study area boundaries (and the associated rationale) for Bipole III are
21 described in Section 2 of the aquatics technical report located at:

22 [https://www.hydro.mb.ca/projects/bipoleIII/pdfs/eis/AquaticsTechnicalReport/BPIII_Aquatics](https://www.hydro.mb.ca/projects/bipoleIII/pdfs/eis/AquaticsTechnicalReport/BPIII_Aquatics_Technical_Report_November_2011.pdf)
23 [Technical_Report_November_2011.pdf](https://www.hydro.mb.ca/projects/bipoleIII/pdfs/eis/AquaticsTechnicalReport/BPIII_Aquatics_Technical_Report_November_2011.pdf)

24 and in Section 9.3.1 of the St. Vital Transmission Complex EA Report located at:

25 <http://www.gov.mb.ca/sd/eal/registries/5719hydrostvital/eap/e.a.report.pdf>

26 References

27 AENV (Alberta Environment). 2001. Guide to the *Code of Practice for Pipelines and Telecommunication*
28 *Lines Crossing a Water Body*, including Guidelines for Complying with the Code of Practice. Alberta
29 Environment. Edmonton, Alberta.

30 BCMWLAP (British Columbia Ministry of Water, Land and Air Protection). 2004. Riparian Areas Regulation.
31 BC Ministry of Water, Land and Air Protection, British Columbia.

32 ESRD (Alberta Environment and Sustainable Resource Development). 2012. Stepping Back from the Water:
33 A Beneficial Management Practices Guide for New Development Near Water Bodies in Alberta's Settled
34 Region. Regional Science and Planning, Alberta Environment and Sustainable Resource Development.
35 Alberta.

36 ESRD (Alberta Environment and Sustainable Resource Development). 2013b. Code of Practice for Pipelines
37 and Telecommunication Lines Crossing a Water Body. Consolidated to include amendments as of June 24,
38 2013. Alberta Queen's Printer, Edmonton, AB.

- 39 *Fisheries Act*, RSC 1985, c F-14.
- 40 MNR (Ministry of Natural Resources, Ontario). 2010. *Natural Heritage Reference Manual for Natural*
41 *Heritage Policies of the Provincial Policy Statement, 2005*.
- 42 NEB (National Energy Board). 2014. National Energy Board Filing Manual, 2014-01 (2014). Available at:
43 <http://www.neb-one.gc.ca/clf-nsi/rpblctn/ctsndrgltn/flngmnl/flngmnl-eng.html>.
- 44 NBDELG (New Brunswick Department of the Environment and Local Government). 2012. Watercourse and
45 Wetland Alteration Package. Department of the Environment and Local Government, New Brunswick.

SUBJECT AREA: Fish and Fish Habitat, None

REFERENCE: Chapter 8, 8.3.1.5 Addressing Uncertainty & 8.4.1.5 Cooks Creek/Devils Creek Sub-watershed

QUESTION:

In Section 8.3.1.5; states that the southern crossing of Cooks and Edie Creek were not assessed during field studies because, at the time of fall 2014 field investigations, they were not part of the route options. Did Manitoba Hydro decide not to assess these crossings once they knew there were part of the final preferred option? Aerial imagery, land cover data and data from downstream assessments of these two sites were extrapolated to predict existing conditions at the watercourse crossings. Section 8.4.1.5; states that Cooks Creek crossing is ranked with a high sensitivity ranking based on the potential presence of SOCC, as well as used by one or more CRA fish species for spawning, rearing and growth; and overwintering is possible for small-bodied fish. Provide the rationale for not conducting field studies on these areas to confirm the presence and absence of SOCC and CRA, as well as to provide adequate information regarding what mitigation measures will be in place to confirm that there is no impact to SOCC and CRA fish species composition and habitat.

RESPONSE:

- 1 In cases where the presence/absence of SOCC and CRA fisheries is unclear/unknown, it is
- 2 assumed that they are present. Because these watercourse crossings were not identified prior
- 3 to the completion of field investigations, Manitoba Hydro extrapolated conditions using
- 4 downstream data from the same watercourses, as presented in the MMTP Environmental
- 5 Impact Statement (Chapter 8, p. 8-15). This conservative approach assumes that Cooks and Edie
- 6 creeks have highly sensitive fish habitat and their crossings were carried forward to a fish and
- 7 fish habitat assessment (Chapter 8, Figure 8-1).

- 8 Given that the watercourses were ranked with the highest sensitivity and that site-specific
- 9 mitigation measures will be implemented to reduce the likelihood of effects on SOCC and CRA
- 10 fisheries (e.g., in watercourses where mussel SOCC occur, construction of watercourse crossings

11 may be by boat or barge, or during winter [i.e., under frozen conditions]), it was determined
12 that additional field studies were not required.

13 Mitigation measures will be applied at all watercourse crossings that support fish and fish
14 habitat. No residual effects are anticipated to fish and fish habitat, including watercourses that
15 support or have the potential to support SOCC and CRA fisheries.

SUBJECT AREA: Fish and Fish Habitat, None

REFERENCE: Chapter 8, 8.3.1.5 Addressing Uncertainty

QUESTION:

Section 8.3.1.5; states that fish sampling was not conducted as part of the field assessment so fish presence data were sourced from desktop historical data. Recent fish species area available (Milani 2013); Manitoba Integrated Watershed Plans) and additional data provided through key person interviews as part of the Project's ATK studies. Please provide all information applied to the MMTP EIS from ATK person interviews and historical data for fish presence data for all stream crossing in the proposed transmission line project area. The historical data used came from "Milani, D.W. 2013. Fish Community and fish habitat inventory of streams and constructed drains throughout agricultural areas of Manitoba (2002-2006). Can. Data Rep. Fish. Aquat. Sci. 1247: xvi 6,153 p." Provide the specifics of which Watershed Plans were used, access to those watershed plans, and whether those watershed plans covered the whole project area for MMTP. Please provide a rationale for using a historical data set from 2002-2006 and not conducting any fish sampling within the field assessment process to provide adequate and present knowledge of species composition and habitat. Specifically related to assurance that no SOCC or CRA species will be impacted, and that habitat rating is correct.

RESPONSE:

- 1 Available ATK reports can be found in Appendix A of the Environmental Impact Statement.
- 2 Please refer to response MMF-IR-007 that provides examples of how ATK was considered in the
- 3 Fish and Fish Habitat chapter.

- 4 Section 8.3.1.1, bullet 3, page 8-10, states the watershed plans used. They are all available on
- 5 the websites of each of the Conservation Districts listed. A description of coverage of the
- 6 regional assessment area by Conservation Districts is provided on p. 8-11, and Map 8-3
- 7 illustrates coverage of the Project Development Area.

- 8 In cases where the presence or absence of SOCC and CRA fisheries is unclear or unknown, it is
9 assumed that they are present. Please refer to response MWL-IR-002 for details on mitigation
10 for effects on SOCC or CRA.

SUBJECT AREA: Fish and Fish Habitat, None

REFERENCE: Chapter 8, 8.3.1.4 Field Studies

QUESTION:

Section 8.3.1.4; states "In absence of Manitoba guidelines, the Alberta Fish Habitat Manual (Alberta Transportation 2009) was used as a guideline for watercourse categorization. Each watercourse was categorized in terms of size and flow regime as follows" Please provide the rationale for selecting the Alberta Fish Habitat Manual (Alberta Transportation 2009) for categorizing watercourse in terms of size and flow regime? Why was Alberta Manual selected compared to other provincial guidelines for Canada? Did Manitoba Hydro use this Manual for other Manitoba Hydro transmission project EIS filings and contents since 2009? If not what did Manitoba Hydro use as guidelines for Fish Habitat Guidelines/Manual for other recent transmission projects?

RESPONSE:

- 1 The Province of Manitoba currently does not have a method for watercourse categorization. In
- 2 lieu of a local method, Manitoba Hydro drew upon other available systems to classify streams,
- 3 including the *Alberta Fish Habitat Manual* (Alberta Transportation 2009).

- 4 The *Alberta Fish Habitat Manual* documents an approach to characterize watercourses and to
- 5 plan and construct watercourse crossing projects while minimizing negative effects on fish and
- 6 fish habitat. The approach is consistent with standard methods of characterization across
- 7 Canada. Specifically, size and flow regime are standard parameters that are documented when
- 8 assessing potential impacts to watercourses (BCMWLAP undated; Irwin et al. 2013; Stanfield
- 9 2013; MTO 2009; NBDLEG 2012). Additionally, the approach presented in the *Alberta Fish*
- 10 *Habitat Manual* uses values and definitions that are similar to, or the same as, those provided
- 11 in provincial guidance across Canada, including British Columbia (BCMWLAP undated), Ontario
- 12 (Irwin et al. 2013; Stanfield 2013; MTO 2009), and New Brunswick (NBDLEG 2012). The *Alberta*

13 *Fish Habitat Manual* was selected because it focuses on procedures that apply to the planning
14 and design of watercourse crossing projects for linear features in a similar geographical setting
15 (i.e., an environment where fish habitat has been historically affected by agricultural activity).

16 Various methods have been used to categorize watercourses on recent Manitoba Hydro
17 projects. The *Alberta Fish Habitat Manual* has not been used previously. The methods used
18 were based on the scope and location of the project and the existing information available.

19 The aquatic consultant for the MMTP project drew upon expertise and experience from across
20 Canada. Based on this, they were able to use methods properly suited to the scope of the
21 project that are consistent with best practices across Canada.

22 **References**

23 Alberta Transportation. 2009. *Fish Habitat Manual Guidelines and Procedures for Watercourse Crossings*
24 in Alberta. Alberta Transportation.

25 BCMWLAP (British Columbia Ministry of Water, Land and Air Protection). Undated. *Riparian Areas*
26 *Regulation Assessment*. BC Ministry of Water, Land and Air Protection, British Columbia.
27 [http://www2.gov.bc.ca/assets/gov/environment/plants-animals-and-ecosystems/fish-fish-](http://www2.gov.bc.ca/assets/gov/environment/plants-animals-and-ecosystems/fish-fish-habitat/riparian-areas-regulations/rar_assessment_methods.pdf)
28 [habitat/riparian-areas-regulations/rar_assessment_methods.pdf](http://www2.gov.bc.ca/assets/gov/environment/plants-animals-and-ecosystems/fish-fish-habitat/riparian-areas-regulations/rar_assessment_methods.pdf)

29 Irwin, K., B. Bergmann and J. Boos. 2013. *The stream permanency handbook for south-central Ontario*,
30 second edition. Ontario Ministry of Natural Resources.

31 MTO (Ministry of Transportation, Ontario). 2009. *Environmental Guide for Fish and Fish Habitat*. Version
32 June, 2009. Provincial and Environmental Planning Office, Ministry of Transportation, St. Catharines,
33 Ontario.

34 NBDELG (New Brunswick Department of the Environment and Local Government). 2012. *Watercourse and*
35 *Wetland Alteration Package*. Department of the Environment and Local Government, New Brunswick.

36 Stanfield, L. (editor). 2013. *Ontario Stream Assessment Protocol*. Version 9.0. Fisheries Policy Section.
37 Ontario Ministry of Natural Resources. Peterborough, Ontario. 505 Pages.

SUBJECT AREA: Community Health and Well-being, None

REFERENCE: EIS Section 6.3.8

QUESTION:

Please provide details on the impacts this project will have on Community Health and Well-being. Section 6.3.8 outlines community health on well-being as it currently exists but there is no reference to any potential harm or benefit as a result of this project. Section 6.3.9 refers to Chapter 18 for project related health risks. Can a summary of Chapter 18 be included in section 6.3 to directly link impacts with baseline data? Why is this information separated in the EIS? Are there any community health benefits from the MMTP?

RESPONSE:

- 1 The EIS was structured to fulfill CEC and NEB filing manual requirements, and for readability.
- 2 The intent is that Chapter 6 provides an overview level of information on the environmental
- 3 and socio-economic setting to help provide context for the assessment of valued components
- 4 and other environmental effects, which are provided in chapters 8 to 21. More detailed
- 5 information on a number of the VCs is provided in supplementary Technical Data Reports.
- 6 Section 6.3 of the EIS provides the socio-economic setting used in the EIS. The purpose of this
- 7 section is to provide an overview level of baseline information on the various socio-economic
- 8 valued components, including human health that are addressed in more detailed in Sections 13
- 9 to 19. Additional information to support the assessment of socio-economic valued components
- 10 is provided in socio-economic technical data reports, which are available at the following link:
- 11 https://www.hydro.mb.ca/projects/mb_mn_transmission/document_library.shtml
- 12 A potential community health benefit from MMTP is the coordination with Southern Health
- 13 RHA over the provision of primary care services near Stuartburn and Piney via a mobile medical
- 14 clinic.

SUBJECT AREA: NFAT, None

REFERENCE: MMTP EIS Economic Impact Assessment Technical Data Report
Section 1.1

QUESTION:

Please direct participants and CEC to the "entire business case for the project" required to understand the complete costs and benefits of the project. Is the entire business case for the project the construction phase plus the operation phase? Provide "entire business case for the project". Explain why a business case is referred to in the introduction to the economic impact analysis and not referred to again in the rest of the Technical Report.

RESPONSE:

- 1 These questions relate to the NFAT and the justification for the Project and are out of scope for
- 2 the Clean Environment Commission hearing.

SUBJECT AREA: Public Engagement, None

REFERENCE: Environmental Impact Statement Section 22.2.4

QUESTION:

In section 22.2.4, Manitoba Hydro commits to ongoing communications with relevant organizations and interested parties via a standard annual report. Why was this chosen over more frequent communications? Were any other options for quarterly or twice a year reporting considered? Would this report (annual or more frequent) be made public ? Would it be posted on the Manitoba HYDRO website? How would Manitoba Hydro determine ‘relevant’ organizations and interested parties? Is the MMTP Project Team at Manitoba Hydro aware of the commitment made by the utility, recommendation by the CEC, and requirements to maintain a Keeyask website ? Is the MMTP Project Team at Manitoba Hydro aware that the Keeyask website is supposed to be where all reports, monitoring information, and updates during the life of the project are to be posted? Does Manitoba Hydro intend to maintain a website for the MMTP for the life of the project, starting with the construction period ?

RESPONSE:

- 1 1. The development of annual reports relies on having data from a variety of field studies
- 2 that are collected at different times throughout the year and each study requires several
- 3 months to compile and analyze, making more frequent reporting impractical and of
- 4 limited value to stakeholders, therefore no other options were considered.
- 5 2. Please refer to response CAC-IR-006.
- 6 3. Please refer to response CAC-IR-006.
- 7 4. Manitoba Hydro could not find a reference to ‘Relevant’ organizations and interested
- 8 parties in Chapter 22. The website is available to any member of the public.
- 9 5. Yes, Manitoba Hydro is aware of the Keeyask Limited Partnership’s Website and has
- 10 similar Project websites and commitments for its major transmission projects.
- 11 6. Yes.
- 12 7. Please refer to response CAC-IR-007.

SUBJECT AREA: Accidents, Malfunctions and Unplanned Events, None

REFERENCE: MMTP Environmental Impact Statement Section 3.4.8

QUESTION:

Does the EIS include information on change management? For example, if there is a disaster that requires a variance from the preferred route/ plan how will that be managed? Is there a plan for drastic resource use changes? What methodology does Manitoba Hydro use for significant change after approval and during construction of a transmission project?

RESPONSE:

- 1 The EIS does not include specific information on change management as it will dependent upon
- 2 the nature of the change. Should a change to the project be required after licensing, Manitoba
- 3 Hydro will work with appropriate government departments both provincially and federally to
- 4 receive guidance on how to best approach the situation and on the process necessary for
- 5 further approvals, if required.

SUBJECT AREA: MMF, None

REFERENCE: Section 10.4.7

QUESTION:

This section specifies that "...the effects of construction should not reduce the number of traditional use plant species in the RAA or effect the viability of traditional use species in the RAA." However, this does not take into account Metis preferred areas of harvest and potential effects to those areas. How were the preferred areas of harvest of the Metis considered in the assessment of effects on Traditional Use Plant species?

RESPONSE:

- 1 Effects to traditional plant species were assessed by considering the characteristics of the
- 2 landscape affected by the Project. Native vegetation comprises 24% of the Final Preferred
- 3 Route Project Development Area. Transmission line routing for the Project considered and
- 4 ultimately avoided the many known areas with traditional use plant species, including 1073
- 5 observations recorded during the 2014 field surveys along the alternative routes in the RAA.
- 6 Additionally, all affected cover classes are well represented in the RAA (1,136,357ha of
- 7 deciduous forest, 32,145ha of shrubland and 33,872ha of pasture). Based on this
- 8 understanding, the effects of construction should not reduce the number of traditional use
- 9 plant species in the RAA or effect the viability of traditional use species in the RAA.
- 10 Should the MMF identify additional preferred areas of harvest in their final report, Manitoba
- 11 Hydro has committed to filing a supplemental report where Manitoba Hydro articulates how
- 12 the Study information has influenced the MMTP.

SUBJECT AREA: Adaptive Management, None

REFERENCE: Environmental Impact Statement Section 22.1.2

QUESTION:

Is there a veto process in the adaptive management method described in section 22.1.2? Who has the ability to say no to an adaptive management method or step? Which authorities, stakeholders, affected communities etc. will be involved in the adaptive management method, other than Manitoba Hydro?

RESPONSE:

- 1 Manitoba Hydro has the ultimate decision making authority on adaptive management
- 2 methods. There may be a wide range of changes resulting from adaptive management and
- 3 depending on the type and scope of change, authorities, stakeholders and/or affected
- 4 communities may be involved in the decision.

SUBJECT AREA: Community Health and Well-being, None

REFERENCE: EIS Section 6.3.8

QUESTION:

Please provide details on the impacts this project will have on Community Health and Well-being. Section 6.3.8 outlines community health on well-being as it currently exists but there is no reference to any potential harm or benefit as a result of this project. Section 6.3.9 refers to Chapter 18 for project related health risks. Can a summary of Chapter 18 be included in section 6.3 to directly link impacts with baseline data? Why is this information separated in the EIS? Are there any community health benefits from the MMTP?

RESPONSE:

- 1 Please see response MWL-IR-005.

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: Chapter 9: 9.4.3

QUESTION:

Please provide rationale for not conducting any small mammal surveys within the preferred final route corridor.

RESPONSE:

- 1 Effective field studies for small mammals tend to require trapping, which results in stress and
- 2 risk of injury or death to the individuals that are caught. Given that the Project is not within the
- 3 range of any small mammal species at risk, the assessment of effects on small mammals are
- 4 captured under the discussion of other mammals in Section 9.5. More precise knowledge of
- 5 species distribution and abundance would not influence that assessment conclusions and
- 6 therefore field surveys were considered unnecessary.

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: Chapter 9: 9.4.3

QUESTION:

Please provide any existing information or studies conducted by Manitoba Hydro regarding the cumulative effects and impacts of the previous existing Manitoba Hydro transmission lines (500kV and 230vK) on large mammals.

Does Manitoba Hydro hold data and studies with respect to cumulative, over time effects and impacts on large mammals from Bipole 1, or 2?

Does Manitoba Hydro hold data and studies with respect to cumulative, over time effects and impacts on large mammals from the North Central Project?

Where is this information included in the EIS?

What methodology does Manitoba Hydro apply to carry the outcomes from environmental assessment, monitoring, and studies conducted on previously constructed transmission lines – to inform planning for any new transmission project?

RESPONSE:

1 Authors of the MMTP Environmental Impact Assessment (EIS) sought to understand cumulative
2 effects through review of past Manitoba Hydro projects, Key Person Interviews with technical
3 experts, and from Aboriginal Traditional Knowledge. A portion of the MMTP new right-of-way
4 spans habitat similar to that along M602F, a nearby 500-kV transmission line constructed in
5 1979. The understanding of effects to large mammals from M602F was considered more
6 relevant than transmission lines in more northern ecozones. Please see the Wildlife and Wildlife
7 Habitat Technical Data Report for methods and results of field studies designed to better
8 understand the effects of existing transmission lines on large mammals and other focal species
9 assemblages, including camera trap studies, winter track surveys, breeding bird surveys, bird
10 mortality monitoring, and wetland herptile surveys.

- 11 Peer-reviewed journals were referenced in Section 5 of the Wildlife and Wildlife Habitat
12 Technical Report and in Chapter 9, Section 9.11. Key Person Interviews are referenced
13 throughout the chapter. Aboriginal Traditional Knowledge is referenced throughout Chapter 9
14 and included as part of the EIS.

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: Chapter 9: 9.4.3

QUESTION:

Please provide rationale for not conducting black bear den surveys in the project region, project area, etc to avoid any impacts to hibernating bears during winter months and construction?

RESPONSE:

1 Black bear den locations can be highly variable, occurring in tree stumps, under logs, brush, or
2 boulders, or at the base of trees, and may be used habitually or change from year to year. Bear
3 den surveys were not undertaken in the Project Area because of this variability, i.e., locations
4 used for hibernation at the time of the survey might not be occupied during project
5 construction and vice-versa. However, bear den observations were recorded when
6 encountered during field studies, and all were located over 4km from the Final Preferred Route
7 (FPR) (Wildlife and Wildlife Habitat Section 2.3.3.3.1; Map 3-1). As outlined in the Construction
8 EPP (Appendix 22A) any active bear den encountered will be left undisturbed until unoccupied.
9 This approach has been demonstrated as effective in protecting black bears in the development
10 of the Bipole III Project, Keeyask Transmission Project, and Lake Winnipeg East System
11 Transmission Project.

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: Chapter 9: 9.3.1.4.1

QUESTION:

In Section 9.5.4 Summary of Environmental Effects on Wildlife and Wildlife Habitat

Please provide information and maps which include a historical and presently known range of all ungulate species. Please overlay ungulate historical and presently known ranges with the final preferred route, remote camera deployment sites, aerial winter track survey areas and elk breeding surveys in one map. Has this data compilation been conducted? If so please provide direction to where this information is currently in the EIS. If this was not done, why not?

RESPONSE:

- 1 In the development of this environmental assessment, Manitoba Hydro utilized the best
- 2 available information to help understand the ecology and range of all ungulate species within
- 3 the Project study area. To inform the assessment, Manitoba Hydro conducted literature reviews
- 4 of government publications, field studies, key-person interviews, a First Nation and Metis
- 5 Engagement Process and Public Engagement Process.

- 6 Range maps of ungulate species in Manitoba are maintained by the Province of Manitoba, and
- 7 are available in various publications (Manitoba Sustainable Development 2016a,b).

- 8 Remote camera deployment sites, aerial winter track survey areas, and elk breeding survey
- 9 sites overlain with the final preferred route are presented in Map 2-3 to 2-11 in the Wildlife and
- 10 Wildlife Habitat TDR.

11 **References**

- 12 Manitoba Sustainable Development. 2016a. Wild Animals of Manitoba. Fact Sheets: Available from:
- 13 <http://www.gov.mb.ca/sd/wildlife/mbsp/>

- 14 Manitoba Sustainable Development. 2016b. Species At Risk. Available from:
- 15 <http://www.gov.mb.ca/sd/wildlife/sar/fs/wlcaribou.html>

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: Chapter 9: 9.3.1.4.1

QUESTION:

In Section 9.5.4 Summary of Environmental Effects on Wildlife and Wildlife Habitat
Please provide rational for not using Remote Camera Deployment along the entire final preferred route. Most of the cameras appear to have been deployed along the existing Transmission Lines, with the exception of the proposed south east corridor of the final preferred route.

RESPONSE:

1 As described in Section 2.3.3.1.1 of the Wildlife and Wildlife habitat TDR, the focus of the
2 camera trap program was two-fold. Manitoba Hydro targeted 1) portions of the alternative
3 routes (including the southern portion of the Final Preferred Route) that overlap large forest
4 patches having the greatest potential to be used by large mammals and furbearers and 2) parts
5 of the existing 500-kV M602F transmission line traversing habitats similar to those found along
6 the alternative routes. A total of 36 cameras (62%) were located along the alternative routes
7 and 22 (38%) along the existing M602F transmission line.

8 Cameras were not located along the entire final preferred route because the northern extent
9 traverses mostly agricultural lands and few large forest patches. Based on Manitoba Hydro's
10 understanding of large mammal and furbearer occurrence in southeastern Manitoba, the
11 greatest potential to detect these animals was in the southern portion of the RAA.

SUBJECT AREA: **Wildlife and Wildlife Habitat, None**

REFERENCE: **Chapter 9: 9.3.1.4.1**

QUESTION:

Please provide all results and data collected during Large Mammal Surveys: Remote Camera Deployment, Elk Breeding Survey, and Aerial Winter Track Surveys.

RESPONSE:

- 1 The results and data collected during large mammal surveys are presented in the Section 2.3,
- 2 and Appendix A, B, C and D of the Wildlife and Wildlife Habitat TDR.

SUBJECT AREA: Project Description, None

REFERENCE: EIS, Chapter 2, page 35, Table 2-8

QUESTION:

In Table 2-8, page 35 of Chapter 2 of the EIS, the "Bunting" conductor in a bundle of three was chosen for the MMTP D604I line.

- i. Is this the conductor to be applied all the way from Dorsey to Blackberry in Minnesota on the D604I line? Please confirm that this is the same conductor and bundle as on the existing M602F line.
- ii. Please confirm whether a conductor optimization study was undertaken for the MMTP line at it was for the M602F line.
- iii. Please confirm that the M602F line with series capacitors is approximately in parallel with the new MMTP D604I line and therefore more heavily loaded under normal operation.
- iv. If the M602F line normally operates at a higher loading than the D604I line, please explain how conductor optimization would result in the D604I line having the same conductor as the M602F line?

RESPONSE:

- 1 i. The "Bunting" conductor (1192.5 kcmil 45/7) is planned to be used on the entire line
2 between Dorsey and Iron Range (D604I). Each phase will be comprised of three sub-
3 conductors. The existing line M602F utilizes a similar three sub-conductor configuration.
4 The majority of the line between Riel and Forbes is Bunting (1192.5 kcmil 45/7). A
5 portion of the line in the Riel to Vivian corridor is "Pheasant" 1272 kcmil 54/19 (to tower
6 91). The existing line between Dorsey and Riel (D603M) is also "Pheasant" 1272 kcmil
7 54/19.
- 8 ii. A conductor optimization study was undertaken for MMTP. A conductor optimization
9 was also undertaken for the D602F line.

- 10 iii. The line D604I is roughly in parallel with the Dorsey to Riel (D603M) and Riel to Forbes
11 (M602F) 500-kV lines. Both lines will be series compensated. M602F is approximately
12 50% series compensated and D604I will be 60% series compensated. The impedances of
13 the Dorsey-Riel-Forbes line and the Dorsey-Iron Range line are comparable. The Riel to
14 Forbes line is expected to be more heavily loaded than the Dorsey to Iron Range line
15 because of the impedance beyond the line terminations. The Forbes line ties into a 500-
16 kV and 345-kV network which has a much lower impedance compared with the 230-kV
17 network at Iron Range.
- 18 iv. Conductor optimization examined the following triple bundle configurations that could
19 achieve 3000 Amp continuous loading: Finch (1113 kcmil 54/19), Bunting (1192.5 kcmil
20 45/7), Bittern (1272 kcmil 45/7) and Pheasant (1272 kcmil 54/19). Capital cost and the
21 cost of losses were used to optimize the conductor selection, which was a similar
22 approach used on the existing line. Series compensation was then optimized between
23 50% and 70% of the total line impedance in order to ensure that there would be no
24 congestion on the existing 500-kV line at the targeted firm transfer level. It is more cost
25 effective to add series compensation than to double the size or number of sub
26 conductors, for example.

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: Chapter 9: 9.5.4

QUESTION:

Section 9.5.4 Summary of Environmental Effects on Wildlife and Wildlife Habitat

Section 9.5.4 states "The Project is not expected to affect bat hibernacula, as bat hibernacula are not expected to occur in the RAA based on expert knowledge (Willis 2014, pers. Comm), lack of surficial geology conducive to natural cave formation, and absence of historical archaeological excavations such as tunnels or caverns, or mining sites in the area.

Has there been previous research conducted in the Project area that can confirm absence of bat hibernacula areas and can prove that MMTP is not expected to affect bat hibernacula areas? Please provide detailed information and confirmation that bat hibernacula does not occur within the proposed transmission project area, corridor route, or construction impact zone - via published studies or other non published technical data studies.

RESPONSE:

- 1 Overwintering bats require caves, mines, or other similar cold and humid environments
- 2 (COSEWIC 2013). Manitoba Mineral Resources (2013) shows no potentially suitable
- 3 anthropogenic hibernacula within the RAA, although there are some natural limestone
- 4 features. Many bat hibernacula in Manitoba have been mapped (Asmundson and Larche 1996
- 5 as cited in Bilecki 2003) but the Manitoba Conservation Data Centre (2014) has no record of bat
- 6 hibernacula within the RAA. Therefore, while it is not possible to confirm that bat hibernacula
- 7 do not occur in the RAA, it is unlikely. However, should a bat hibernaculum be discovered prior
- 8 to construction, mitigation measures will be prescribed to address such an occurrence
- 9 (Environmental Protection Plan, Appendix 22A).

10 **References:**

11 Bilecki, L. 2003. Bat hibernacula in the karst landscape of central Manitoba: protecting critical wildlife
12 habitat while managing for resource development (Thesis). Natural Resource Institute, University of
13 Manitoba.

14 COSEWIC. 2013. COSEWIC assessment and status report on the Little Brown Myotis *Myotis lucifugus*,
15 Northern Myotis *Myotis septentrionalis* and Tri-colored Bat *Perimyotis subflavus* in Canada. Committee on
16 the Status of Endangered Wildlife in Canada. Ottawa. xxiv + 93 pp. ([http://www.registrelep-](http://www.registrelep-sararegistry.gc.ca/)
17 [sararegistry.gc.ca/](http://www.registrelep-sararegistry.gc.ca/)).

18 Manitoba Conservation Data Centre. 2014. Wildlife and Ecosystem Protection Branch: Historical Records
19 and Species and Plant Database from Manitoba Conservation and Water Stewardship [online]. Accessed
20 from: <http://www.gov.mb.ca/conservation/cdc/> [January 20, 2015]

21 Manitoba Mineral Resources. 2013. Bedrock geology, Manitoba; in Map gallery – Geoscientific Maps,
22 Manitoba Mineral resources [online]. Accessed from: [http://web15.gov.mb.ca/mapgallery/mgg-](http://web15.gov.mb.ca/mapgallery/mgg-gmm.html)
23 [gmm.html](http://web15.gov.mb.ca/mapgallery/mgg-gmm.html) [March 5, 2015].

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: Chapter 9: 9.4.3 Mammals

QUESTION:

Please provide rationale for not conducting Bat surveys. There are two listed species in the area under the Canadian Species at Risk Act within Manitoba: Little Brown Bat *Myotis lucifugus* and Northern Long eared *Myotis septentrionalis*. Did Manitoba Hydro confirm the absence of species hibernacula areas in the MMTP region, project area, corridor, and construction impact zone ?

RESPONSE:

1 Little brown myotis and northern myotis range throughout southeastern Manitoba where
2 suitable forage (e.g., forest edge, riparian areas) and roost sites (e.g., mature trees) exist
3 (COSEWIC 2013). Because foraging and roosting areas are unlikely to be limiting factors on
4 these species, general bat surveys would not have added meaningful data; rather, the
5 assessment assumed that these species do occur in the RAA, including parts of the PDA, based
6 on range overlap and presence of suitable forage and roosting habitat (Chapter 9 Section 9.4.3
7 and Section 2.3.2.2.6 - Wildlife and Wildlife Habitat TDR). Conversely, in winter the availability
8 of hibernacula strongly constrains the distribution of these bats, and, as described in the
9 response to MWL-IR-020, there is no evidence to support the presence of hibernacula within
10 the RAA, therefore no locations were identified for targeted surveys.

11 **Reference:**

12 COSEWIC. 2013. COSEWIC assessment and status report on the Little Brown Myotis *Myotis lucifugus*,
13 Northern Myotis *Myotis septentrionalis* and Tri-colored Bat *Perimyotis subflavus* in Canada. Committee
14 on the Status of Endangered Wildlife in Canada. Ottawa. xxiv + 93 pp. ([www.registrelep-](http://www.registrelep-sararegistry.gc.ca/default_e.cfm)
15 [sararegistry.gc.ca/default_e.cfm](http://www.registrelep-sararegistry.gc.ca/default_e.cfm)).

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: Chapter 9: Section 9.3.1.3

QUESTION:

In Section 9.3.1.3 Key Personal Interviews

Please provide copies of the transcripts and answers to the two questionnaires used in the interviews conducted in the development of the mammal studies. Please also provide transcripts and answers to separate questionnaires that were developed for bird and herptile interviews. If there is a statistical summary of the answers to these 4 questionnaires please provide. If written language summaries were arrived at from these 4 questionnaires please provide.

RESPONSE:

- 1 Questionnaires used in the key person interviews for mammals, birds, and herptiles are found
- 2 in Appendix C, C.1 of the Wildlife and Wildlife Habitat TDR. Responses from the key person
- 3 interviews are summarized in Sections 2.3.2.2 (mammals), 2.4.2.2 (birds), and 2.5.2.2 (herptiles)
- 4 of the Wildlife and Wildlife Habitat TDR. There are no transcripts.

SUBJECT AREA: **Wildlife and Wildlife Habitat, None**

REFERENCE: **Chapter 9: Section 9.3.1.3**

QUESTION:

In Section 9.3.1.3 Key Personal Interviews

Please provide copies of the two questionnaires used in the interview process and development of the mammal studies.

As well please provide the separate questionnaires that were developed for bird and herptile interviews.

RESPONSE:

- 1 Please see response MWL-IR-022.

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: Chapter 9: Section 9.3.1.4.3 Herptile Surveys

QUESTION:

In the visual encounter survey conducted, the methods section states: Visual encounter surveys were conducted at 26 sites between late August and late September 2014, with a single survey conducted at each water body between 1500 h and 1800 h (Map 9-22). Following protocols consistent with Species Detection Survey Protocols developed by Saskatchewan Government. Please provide a rational why visual encounter surveys occurred between 1500 h and 1800 h, at each survey location in late August and September if the Species Detection Survey Protocols developed by Saskatchewan Government states "Visual searches are best conducted between 0900-1500 hours under sunny conditions (Grant et al.2005, when amphibians are basking and eggs and young are most visible (Kendell 2002).

Reference: Government of Saskatchewan(2014). Species Detection Survey Protocols Amphibian Visual Surveys. Online: February 16, 2017 From:

<http://publications.gov.sk.ca/documents/66/89829-df579dc1-5ed4-43fa-ba4d-7d4ef60b5fc4.pdf>

RESPONSE:

- 1 The timing reported in Section 9.3.1.4.3 was in error; surveys in fact began as early as 10:00,
- 2 and half of them were completed before 15:00. When conditions remained suitable beyond
- 3 15:00 (i.e., visibility and environmental conditions allowed for effective observation), some
- 4 surveys continued as late as 18:00. While these later surveys did not strictly comply with the
- 5 Saskatchewan guidelines, the suggested timing is understood to represent time of day when
- 6 detectability is typically good, rather than a strict limitation and therefore the later effort was
- 7 not considered to bias the results.

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: Chapter 9: Section 9.3.1.4.3 Herptile Surveys

QUESTION:

In the visual encounter survey conducted, the methods section states: Visual encounter surveys were conducted at 26 sites between late August and late September 2014, with a single survey conducted at each water body 1500 h and 1800 h (Map 9-22). Following protocols consistent with Species Detection Survey Protocols developed by Saskatchewan Government.

Please provide a rational why if only one visual encounter surveys occurred at each survey location in late August and September if the Species Detection Survey Protocols developed by Saskatchewan Government states “Surveys must be conducted between May and September. The specific timing varies the type of survey method used, i.e., looking for eggs, larvae, or adults. Generally, the best method is egg surveys, which coincides with the breeding period of May/June (timing will vary slightly with species, location and timing of ice melt”.

If only one visual encounter survey was conducted at all 26 sites, would it not be most optimal to conduct surveys during the best method suggested timing window between May/June, please provide rational for choosing the month of Late August and September if not under optimal conditions for visual surveys?

Reference: Government of Saskatchewan(2014). Species Detection Survey Protocols Amphibian Visual Surveys. Online: February 16, 2017 From:

<http://publications.gov.sk.ca/documents/66/89829-df579dc1-5ed4-43fa-ba4d-7d4ef60b5fc4.pdf>

RESPONSE:

- 1 While the Saskatchewan protocol recommends May/June based on that being the optimal
- 2 period for detecting egg masses, it is our experience that late summer can be at least equally
- 3 effective, as it aligns with the transformation period (e.g., from tadpole to frog) of most species.

- 4 Surveying during this later period is particularly effective when looking for salamanders, which
- 5 were among the target species for this project.

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: Chapter 9: Section 9.3.1.4.3 Herptile Surveys

QUESTION:

In the visual encounter survey conducted, the methods section states: Visual encounter surveys were conducted at 26 sites between late August and late September 2014, with a single survey conducted at each water body 1500 h and 1800 h (Map 9-22). Following protocols consistent with Species Detection Survey Protocols developed by Saskatchewan Government.

Please provide a rational why only one visual encounter survey site occurred at each survey location if the Species Detection Survey Protocols developed by Saskatchewan Government states "Survey must be conducted three times during the appropriate survey period (Paton et al 2003). Survey must be spaced between one and two weeks apart depending on the stage of development at the time of the first survey", "

Reference: Government of Saskatchewan(2014). Species Detection Survey Protocols Amphibian Visual Surveys. Online: February 16, 2017 From:

<http://publications.gov.sk.ca/documents/66/89829-df579dc1-5ed4-43fa-ba4d-7d4ef60b5fc4.pdf>

RESPONSE:

- 1 The Saskatchewan protocol is aimed at thorough inventory of individual sites by using visual
- 2 detection alone. The objective of the visual encounter surveys for this project, as described in
- 3 Section 2.5.3 of the Technical Data Report, was primarily to evaluate site conditions (i.e., assess
- 4 habitat potential) as a supplement to other amphibian surveys (i.e., spring and fall wetland
- 5 surveys and call count surveys). As such, the single visual encounter survey was considered
- 6 sufficient for this project.

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: Chapter 9: Section 9.3.1.4.3 Herptile Surveys

QUESTION:

Some species of reptiles and amphibians within Manitoba, and identified within the proposed Transmission line project area are fossorial. Did visual encounter identify any potential burrowing areas (e.g. Tiger Salamander) within the visual encounter survey? If so were they marked by a GPS point or written down in observations for each survey site?

RESPONSE:

- 1 No specific burrowing sites were observed during surveys.

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: Chapter 9: Section 9.3.1.4.3 Herptile Surveys

QUESTION:

Please provide a list of all bodies of water where surveys were conducted, with maps of GPS tracks of area surveyed within each visual encounter survey.

RESPONSE:

- 1 Map 2-26 of the Wildlife and Wildlife Habitat Technical report illustrates the locations of visual
- 2 encounter surveys.

- 3 It is Manitoba Hydro's long standing position that it will not share any field data or detailed
- 4 location information for species of conservation concern except under strict data sharing
- 5 agreements with the Manitoba Conservation Data Center, or with research organizations,
- 6 provincial and/or federal government departments for the sole purpose of research and/or
- 7 management for species conservation. This position is based on Manitoba Hydro's commitment
- 8 to the conservation of flora and fauna. Releasing detailed information to the public could put a
- 9 species at increased risk.

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: Chapter 9: Section 9.3.1.4.3 Herptile Surveys

QUESTION:

Please provide maps that identify all water bodies (watercourses, lakes and semi-permanent and permanent wetlands) within the proposed Transmission line project area, showing sites used for all Herptile Surveys within the study overlaid within the map. As well, a written description and list of all water bodies (watercourses, and semi-permanent and permanent wetlands) that are within the proposed Transmission line project area, corridor and construction impact zone, identifying a rationale for sight selection of each area surveyed during the Herptile Surveys.

RESPONSE:

- 1 A total of 11 wetlands were surveyed for herptiles in mid-May, 2014. These sites are illustrated
- 2 in Map 9-20. Fall amphibian visual encounter surveys were undertaken from late August to late
- 3 September 2014 at 26 wetlands. These sites are illustrated in Map 2-26 of the Wildlife and
- 4 Wildlife Habitat Technical Report. The report also provides a methodology for the study
- 5 (Section 2.5.3.2.1.1)

- 6 A description of the wetland cover class, abundance, distribution, structure and function within
- 7 the regional assessment area can be found in Section 10.4.4 of Chapter 10.

SUBJECT AREA: Wildlife and Wildlife Habitat, None

REFERENCE: Chapter 9: Section 9.3.1.4.3 Herptile Surveys

QUESTION:

In Section 9.3.1.4.3

Please provide results from all Wetland Herptile Surveys, as there is no results section which identifies findings for the surveys conducted.

RESPONSE:

- 1 Section 9.3.1.4.3 provides an overview of wetland herptile survey methods. The results are
- 2 summarized in Section 9.4.5, and presented in greater detail in Section 2.5.3.1.2 of the
- 3 Technical Data Report.

SUBJECT AREA: **Vegetation and Wetlands, None**

REFERENCE: **EIS Chapter 6, Section 6.2.1 – 6.2.5**

QUESTION:

How will compensation of intentionally or accidentally lost land uses be provided? Have mitigation plans been developed specifically for this possibility? Are there areas identified outside the project area that could be traded for wetlands or other land uses that are encroached on by the project? For example, if a rock truck falls into a wetland during road building and 1 hectare of marsh is destroyed, can a hectare of marsh outside the project area be invested in? Would Manitoba Hydro work with Duck Unlimited or other organizations to conserve replacement areas of wetlands damaged by the MMTP?

RESPONSE:

- 1 The predicted magnitude of effects to wetlands as a result of the project are considered low
- 2 due to the factors outlined in Section 10.5.4.3. Additionally, mitigation measures have been
- 3 developed to reduce effects to wetlands (described in Section 10.5 and Chapter 22). Measures
- 4 focus on maintaining drainage patterns to wetlands, limiting rutting and erosion, and re-
- 5 establishing pre-construction contours and drainage patterns to affected areas. Manitoba
- 6 Hydro will not be constructing any roads with rock or gravel in wetlands as part of the Project.
- 7 In the event a vehicle or equipment were to fall into a wetland due to unfrozen ground
- 8 conditions, Emergency Response Plans in place for the Project require the development of a
- 9 recovery approach that minimizes additional effects to the environment such as spills or ground
- 10 disturbance.

- 11 Manitoba Hydro will adhere to current provincial policies and legislation as it develops projects.
- 12 Currently there is no regulatory mechanism for offsetting effects to wetlands in Manitoba

SUBJECT AREA: **Vegetation and Wetlands, None**

REFERENCE: **Environmental Impact Statement Section 6.2.5 and 6.2.6**

QUESTION:

Section 6.2.5 of the Environmental Impact Statement implies there are over 475 hectares of wetlands in the project area. What percentage of the project region, and project area are comprised of wetlands? What negative socioeconomic, and environmental impacts will this project have on these wetlands? Is Manitoba Hydro able to assign a value to the negative impacts? Given the steady pattern of loss of wetlands in Manitoba, and in this region, does Manitoba Hydro have a policy or plan to replace any wetlands affected by the MMTP ?

RESPONSE:

- 1 Wetlands comprise 15% of the Project Development Area. Chapter 10, Section 10.5, describes
- 2 the effects, including potential 'negative impacts,' of this Project on wetlands. Federal and
- 3 provincial government agencies are responsible for developing policy related to wetlands in
- 4 Manitoba and therefore Manitoba Hydro has not assigned a value to the negative impacts of
- 5 wetlands. Manitoba Hydro has outlined mitigation measures aimed at protecting wetlands
- 6 within this chapter.

SUBJECT AREA: Community Health and Well-being, None

REFERENCE: EIS Section 6.3.8

QUESTION:

Please provide details on the impacts this project will have on Community Health and Well-being. Section 6.3.8 outlines community health on well-being as it currently exists but there is no reference to any potential harm or benefit as a result of this project. Section 6.3.9 refers to Chapter 18 for project related health risks. Can a summary of Chapter 18 be included in section 6.3 to directly link impacts with baseline data? Why is this information separated in the EIS? Are there any community health benefits from the MMTP?

RESPONSE:

- 1 Please refer to response MWL-IR-005.

SUBJECT AREA: Accidents, Malfunctions and Unplanned Events, None

REFERENCE: Environmental Impact Statement Section 6.2.1

QUESTION:

Section 6.2.1 of the Environmental Impact Statement identifies climate hazards for the project region. Storms, large weather systems and tornados are identified. Why are extreme weather events not identified? Please provide details on how Manitoba Hydro will mitigate negative impacts as a result of climate hazards that occur, relative to the project? For example if a tornado hits a construction site within proximity of one of the 75 waterways in the project region and project area, what will be the response and actions of Manitoba Hydro and its contractors? For example, if an extreme weather event (summer or winter) adds enough precipitation to add risk to construction or operation of the MMTP, what will the response and actions of Manitoba Hydro be?

RESPONSE:

- 1 Chapter 20 discusses the potential effects of the environment on the Project's design,
- 2 construction and operation. Mitigation measures to address the examples described above are
- 3 also described in Chapter 20. As described in Chapter 22, Section 22.2.6, Management Plans
- 4 will be developed by construction contractors for Emergency Preparedness and Response and
- 5 Erosion Protection and Sediment Control.

SUBJECT AREA: Project Description, None

REFERENCE: EIS, Section 2.9.2.2

QUESTION:

In Section 2.9.2.2 Structures within New Right-of-Way of Chapter 2 of the EIS it states:

"Tower spans will be approximately 400 m apart. The typical structure height is expected to range between 50 and 60 m, depending on terrain conditions and environmental sensitivities."

Please explain what "environmental sensitivities" impact structure height and why?

RESPONSE:

- 1 Major rivers, highways, existing transmission line crossings, and Red River Floodway are
- 2 examples of features in the environment which are sensitive to MMTP transmission line
- 3 crossing over them. Increased tower heights may be required to provide adequate conductor to
- 4 feature clearances.

SUBJECT AREA: Project Description, None

REFERENCE: MMTP EIS Chapter 2, page 20

QUESTION:

In the EIS chapter 2 page 20 under the heading "Towers" the following statement is made:

"While steel lattice towers require larger ROWs than tubular towers, there are several advantages. Steel lattice towers allow for longer span lengths, thereby reducing the number of obstacles that land owners may need to avoid when operating agricultural equipment." Please provide the number of land owners who may be impacted by the MMTP line who were consulted on this topic and concurred with this conclusion. Please provide the number of land owners who may be impacted by the MMTP line who were consulted on this topic and disagreed with this conclusion.

RESPONSE:

- 1 During the public engagement process this question was not asked of landowners. If there are
- 2 larger spans, there would be fewer towers therefore less obstacles on agricultural land. If
- 3 tubular steel were to be used, although having a smaller footprint, this would result in more
- 4 obstacles on one field.

SUBJECT AREA: Public Engagement, Project Description

REFERENCE: Chapter 2, pages 2-29 and 2-30 & Figures 2-4 and 2-5

QUESTION:

In public engagement and consultation with land owners who may be impacted by the MMTP line, please provide the alternative tower configurations that were explicitly presented to them in addition to the 500kV self-supporting and guyed lattice tower structures of figures 2-4 and 2-5 of chapter 2 pages 2-29 and 2-30 in the EIS.

RESPONSE:

- 1 Guyed and self-supporting steel lattice structures were presented in the engagement processes
- 2 on the project website, at public events, and in the project newsletters for Rounds 1, 2 and 3.
- 3 No alternative tower configurations were presented.

SUBJECT AREA: Project Description, None

REFERENCE: Chapter 2 page 20

QUESTION:

In the EIS chapter 2 page 20 under the heading "Towers" the following statement is made:

"An increased span length reduces the total number of towers required, thereby reducing the total area of tower footprint that will be disturbed during construction of the Project. The use of steel lattice towers also reduces the may need to avoid when operating agricultural equipment."

Please explain why the total area foot print of a self-supporting lattice tower with its 10m x 10m base taking up 100 square metres of area reduces the total area of tower footprint compared with a tubular steel tower having the same clearances as Table 2-3 but with a reduced span of 200m to 250m compared with the span range of 300m to 500m (Chapter 2 of the EIS section 2.9.2.1, page 2-31) and taking up a tower footprint of less than 5 square metres?

RESPONSE:

- 1 Reducing the number of structures by increasing span length of a transmission line, regardless
- 2 of tower type, results in fewer towers and provides the best opportunity to reduce the
- 3 inconvenience of working around towers for agricultural equipment. Farming activities can
- 4 occur safely under the line but are constrained by the physical presence of the structures. Due
- 5 to the large conductors and the high reliability level required for MMTP, a monopole
- 6 structure/tubular steel is not an economic structure type for this transmission line.

SUBJECT AREA: Project Description, None

REFERENCE: Section 2.8

QUESTION:

In the EIS chapter 2 page 28 under section 2.8 Design Philosophy, it is stated:

"The description of the transmission line components of the Project is based on current design and will comply with Manitoba Hydro standards and guidelines with respect to design and construction, operation and maintenance. Should the design change and result in an environmental effect, effects will be reviewed. Key standards and guidelines include:

- MH-TLD-GL001 - Determination of Transmission Line Right-of-Way and Clearing Requirements Rev1 2007

- Station Design Department Standard - Electrical Clearances - 2006"

The design for the MMTP structures as indicated in figures 2-4 and 2-5 of chapter 2 pages 2-29 and 2-30 in the EIS are not significantly different than the M602F line designed in the 1970's. Please provide the factors in MH-TLD-GL001 that determine the transmission right-of-way width and the modifications if any that that are different to the right-of-way width determination for the M602F line.

Is current design effectively the same as 1970's design of tower structures? What changes have occurred in design of Manitoba Hydro tower structures since the 1970's?

RESPONSE:

- 1 The transmission line right-of-way (ROW) provides the space necessary to construct, operate
- 2 and maintain an electric power line in a safe and reliable manner.
- 3 ROW width is dependent on several factors, including:
- 4 • the type and height of structures and their below-grade foundations,
- 5 • span lengths between structures,

- 6 • conductor properties,
- 7 • design weather conditions and the conductor behavior (sag and swing) when exposed to
- 8 these weather conditions,
- 9 • internal design standards,
- 10 • regulatory requirements (eg CSA Standard C22.3 No.1-15 'Overhead Systems'),
- 11 • required footprint for construction and maintenance activities, including emergency
- 12 restoration.

13 While similar in appearance and voltage, MMTP is not identical to M602F. The existing 500-kV
14 AC transmission line 'M602F' was designed using the 1970 version of CSA C22.3 No. 1
15 'Overhead Systems' standard. This document has been updated (latest version: 2015) to include
16 consideration of electrical effects, such as induction, and improved consideration for public
17 safety. A companion design document, the new CSA C22.3 No. 60826 'Design Criteria of
18 Overhead Transmission Lines' standard, also provides additional requirements for the design of
19 safe, reliable power systems.

20 The use of these updated standards, with more accurate weather data available to Manitoba
21 Hydro, has resulted in changes to the design of all transmission lines since M602F was built.

22 Optimization of tower design and spotting along the ROW has provided for increase span
23 lengths, fewer towers and resulting increases in tower heights and guy footprints.

24 The only similarity that the MMTP towers share with those used on M602F is that they both use
25 a delta configuration. Notable differences between the MMTP and the M602F towers are;

- 26 1. Increased electrical clearance to ground
- 27 2. Increased electrical clearance to structure
- 28 3. Increased live line working clearances
- 29 4. Increased reliability level

30 a. The MMTP Reliability level is 1:150 based on recommendations from CAN/CSA-
31 C22.3 No.60826. In comparison, the M602F reliability level, benchmarked using
32 CAN/CSA-C22.3 No.60826, is between 1:50 and 1:75, depending on location and
33 span lengths

34 Together, the above factors result in the proposed ROW widths of 80m for self-supporting
35 towers, and 100m for guyed towers for MMTP.

SUBJECT AREA: Project Description, None

REFERENCE: Chapter 5, Pages 85-87, Table 5,27

QUESTION:

In Table 5-27 Route Statics for Routes SGZ,AY, URU, URV and SIL, pages 85 -87 of Chapter 5, value is placed on various lands the D604I line will traverse. Given that it is possible to significantly reduce width of ROW by shorter spans with less conductor blow out and tower structures significantly less than the 50 to 60m high structures proposed for D604I, please explain why ROW width is not included in the EPRI-GTC analysis as an issue of significance and why there is no consideration for the visual impact of lower profile and more aesthetic structures. In considering this response, please note that for several years, lower profile AC transmission with reduced ROW width has been a topic of interest in order to minimize the overall adverse impacts of overhead transmission lines. See:

- i. "Aesthetic Tower Design Helps Danish Grid Operator Obtain Approvals for Important New 400 kV Line," Independent T&D Information Resources (INMR), October 2015.
- ii. In 2015 a new CIGRE Working Group B2.63 –"Compact AC Transmission Lines" was established.
- iii. Also, " 400 kV AC tower developed in Sweden by STRI" in INMR Issue 101, Quarter 3, 2013, Volume 21, No. 3, p95.
- iv. Recognizing the need for greater social acceptability of overhead high voltage transmission lines, CEATI International has recently released a request for proposal titled: "Innovative Structures (Visually Pleasing) for Better Public Acceptance".

RESPONSE:

- 1 The transmission line routing process for MMTP (that makes use of the EPRI-GTC methodology)
- 2 sought to determine a preferred route for the Project while balancing multiple perspectives and

3 limiting overall effect. The existence of a right-of-way (ROW) is seen as more significant than
4 the width of the ROW. In all cases, the ROW width is assumed to be the minimum practical.
5 Consideration is given during routing and in design to the number of towers (and attempting to
6 minimize this number) along the ROW and to optimally spot towers. That is, minimizing “touch
7 points”. While it is possible to reduce ROW width by reducing the span length (i.e. reducing
8 conductor “blow-out”) this comes at the cost of an increased number of towers (in order to
9 maintain minimum conductor-to-ground clearance). This creates more “touch points” in the
10 way of more towers to be avoided and to maneuver around. Furthermore, from a reliability
11 perspective, an increased number of towers means increased potential points of failure. Tower
12 spotting also considers the appropriate type of tower for the terrain (e.g. guyed towers in
13 swampy areas) while maximizing use of a practical span length that optimizes tower and overall
14 transmission line costs.

15 In regards to the suggested tower designs there are many challenges associated with these as
16 presented:

- 17 • The examples provided are for 400-kV applications and that currently there are no
18 proven designs for 500-kV projects.
- 19 • The Danish example is a double circuit rather than a single circuit line.
- 20 • The conductor placement as proposed for SRTI’s 400-kV design is such that it would not
21 allow for live line maintenance. By comparison, the current Manitoba Hydro design
22 allows for this. The ability to conduct live line maintenance is significant both from a
23 reliability and revenue perspective.

24 Both examples of the proposed tower design are considered considerably more expensive than
25 the current Manitoba Hydro design. Proponents of the Danish 400 kV aesthetic tower design
26 reference a 30-40% cost premium (“Aesthetic Tower Design Helps Danish Grid Operator Obtain
27 Approvals for Important New 400 kV Line”, INMR, October 2015). STRI’s 400-kV design (inspired
28 by the trident design used on distribution lines) is noted as “[having] so far found only limited
29 application in Norway due to its comparatively high cost and ‘top heavy’ appearance. As such

- 30 Manitoba Hydro's current design makes the most sense for the Manitoba-Minnesota
31 Transmission Project.